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MODERN BANKING

BY

R. S. SAYERS

LECTURER IN ECONOMICS IN THE
UNIVERSITY OF OXFORD

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PREFACE

THIS book presents an exposition of modern banking in the light of current theory. It is addressed primarily to the university student who wishes to include in his honours course a study of banking sufficient to enable him to understand how this important part of the economic system really works nowadays. In writing a book with such a design the greatest difficulty is to maintain a consistent plane of exposition. This I know that I have failed to do: and I believe that any one who attempts to take the reader from the elementary stages to the heart of the matter is almost certain to do so. There is a marked change in the plane of exposition just over half-way through the book. Chapters I to VII are restricted to the simpler points, and the reader who is new to the subject is advised to make sure that he has understood those chapters before passing to the more difficult part of the book.

Some readers may be inclined to criticize the lack of factual illustration in a book which claims to be realistic. I have been tempted again and again to include many illustrations, making the book a comprehensive treatise on the subject. But the material for such a treatise—the details of banking systems and monetary events—change so rapidly that I am inclined to doubt the usefulness of a comprehensive treatise on banking. The subject is better covered by a continuous series of monographs. But if this is so, there is occasion from time to time for a book which sums up the present position and presents the contemporary structure briefly in the light of current theory. And that is what this book is meant to do.

Much of the exposition runs in terms of English institutions; but there are sections here and there explaining the main peculiarities of the American system. Other systems receive scantier reference, though Chapter XIII attempts

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to remedy the deficiency by surveying systematically the peculiar problems of certain other important countries. I feel somewhat dissatisfied with the references to American conditions: for on matters of the *constitution* of the banking system I have naturally given the current, Rooseveltian position, while for the *working* of the system I have necessarily had to refer mainly to pre-Roosevelt days. We cannot be at all certain that the Federal Reserve System is going to 'work' again just as it worked in the twenties.

Chapter XIV, on the Nationalization of Banking, hardly fits into the general plan of the book, but I feel that at the moment a book on banking ought to provide some direct help on that subject. I have, of course, confined myself to setting forth what I believe to be the main issues.

I have attached no bibliography or formal advice on further reading. I hope that a reading of this book will be a useful preliminary to use of the really advanced works on money and banking. With that possibility in mind I have at various points indicated in footnotes the standard sources where the problems are more exhaustively discussed.

The book is mainly a summary and restatement of ideas which are the subject of agreement among most economists. By deliberately avoiding, in the first part especially, an analysis of the banking system in the light of its historical development I believe that I have been enabled to present the fundamental points in a more genuinely realistic way than has been done in many earlier books. But the basic notions are not new. Where I am not certain that my statements would command the general support of my fellow economists the reader receives a warning in the introduction of the pronoun 'I'. This may occur either because the views of economists on a particular point have not been circulated enough for me to know how far my thought is representative, or (more rarely) because I am in disagreement with an important body of opinion. In the absence of the warning pronoun the reader may assume that I am, to the best of my knowledge, expounding the prevailing view of competent authorities.

In a book of this kind it is quite impossible to say at every point the source from which the writer derived inspiration. So far as published work is concerned, my greatest debts are to Mr. Keynes, Mr. Hawtrey, and Mr. Robertson; and to the papers of the Macmillan Committee. I should also mention, for special topics, the writings of Professor N. F. Hall on the Exchange Equalization Account and of Mr. Barrett Whale on the theory of the gold standard (my debt to his influence is far more extensive). I have had the advantage of reading an unpublished thesis by Mr. R. M. Goodwin of St. John's College, Oxford, who has submitted to a searching analysis English banking statistics, 1925–35. Also I owe so much to my teachers at Cambridge and to my colleagues at London and at Oxford that it is quite impossible for me to say which (if any) parts of the book are original.

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PEMBROKE COLLEGE,
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CHAPTER I

INTRODUCTORY

I. *The Supply of Money and the Price Level*

BANKS are often described as 'purveyors of money'. Were this their sole function economists would undoubtedly be interested in them, just as economists are interested in the activities of the issuing houses or any other section of the capital market. The linking of borrower and lender, in that it influences the particular direction of the crystallization of capital, is a process of economic significance. But banks and banking have in fact bulked far larger in works on economics than have issuing houses or the solicitors who arrange mortgages on property. And we find the reason for this treatment, I believe, in the fact that banks are not merely *purveyors* of money, but also, in an important sense, *manufacturers* of money.

Perhaps we ought to be quite clear what we mean by 'money' and why we do interest ourselves so much in the behaviour of money. Money is something which is widely accepted for the settlement of debts.[1] It is not of any direct use for the actual 'consumption' which is the ultimate end of all economic activity. Nor is it of direct use in the process of producing consumption goods from other goods and services. But we can use money to buy goods and services, whether for immediate consumption or for use in the production of ultimately consumable goods. In a 'money economy' of the kind with which we are most familiar the all-important process of producing goods for ultimate consumption is carried out at the direction of people who *buy* (*with money*) the original factors of production, put them together, and *sell* (*for money*) the goods

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[1] The word 'debt' covers all monetary transactions. If a child enters a shop to buy a pennyworth of sweets, it asks for the sweets, thereby incurring a debt of one penny, which is settled immediately by passing the coin across the counter.

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produced. They are induced to undertake this process by the prospect of a *money profit*. The direction of the original factors of production into the fundamental processes of producing what we want to live on depends upon various *flows of money*. An alteration in a flow of money implies an alteration in the flow of final goods and services. This is true whether the alteration takes the form of contraction or of expansion or of mere diversion of the flow of money. An expansion of the supply of money never takes the form suggested by Hume, of every one finding their money balances increased in identical proportions. The increase in the supply of money is at the outset concentrated in a few particular channels, and the persons to whom it goes are thereby enabled to increase the share of the factors of production at their disposal. Any person or institution with the power of regulating the supply of money has therefore enormous significance in the economic world.[1]

The most elementary theory of the effects of changes in the supply of money is known as the *Quantity Theory of Money*. It is stated in various forms, more and less rigorous. Sometimes it is said that changes in the supply of money tend to produce changes in the same direction in the general level of prices. The strictest version says that the value of money varies inversely, and the general level of prices directly, in proportion to changes in the supply of money. The first and vaguer form has the advantage of being more obviously consistent with observed facts. The second and more rigorous form has the advantage of being the clear conclusion of a tidy and logical argument built up on strictly limited assumptions.[1]

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[1] A bank is an institution whose debts are widely accepted in settlement of other people's debts to each other. From this and the definition of Money on page 1 it follows that Bank Deposits are Money. These particular definitions appeal to me because they appear to be consonant with common usage. A few other authorities prefer to deny that Bank Deposits are money. But it should be emphasized that the analyses given in this book, like the conclusions of the pure theory of money, are in no way dependent on the choice of definitions. The economic significance of a change in the supply of money is based on the disturbance of the liquidity-distribution of the public's assets, and such a disturbance occurs when Bank Deposits are changed.

The Quantity Theory is based on the fact that money is wanted not for its own sake but for the convenience of having ready command over objects which are of more direct service to us. The more money a person holds the greater is the convenience he enjoys (assuming of course that his money is in convenient forms—not a thousand pounds' worth of threepenny bits!). But the holding of money implies the missing of an opportunity of increasing one's satisfactions of other kinds. For a person can use money either for expenditure on immediate consumption, from which immediate satisfaction is derived; or for acquiring an 'investment' (e.g. the ownership of capital goods) which will yield him further money income in the future—thus enabling him to increase his income of satisfactions at some future date. In determining to secure the convenience of holding a money balance, a person is determining to deny himself the alternative satisfactions he might have enjoyed. Individuals and corporations do in fact get into the habit of holding a certain average money balance, the size of which depends on the money volume of their transactions, their habits of payment, and so forth. Given other things unchanged, an increase in a money balance above the habitual level (having regard to seasonal and similar considerations) will lead the holder of it to consider spending more on consumption or investing more.[2] Now if there is an increase in the *aggregate* supply of money, holders of excess balances must pre-

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[1] The following paragraphs are not intended as an exhaustive analysis of the Quantity Theory. The reader should refer, for further discussion, to the standard works of Marshall (esp. *Official Papers*), Fisher (esp. *Purchasing Power of Money*), Keynes, and Robertson.

[2] From a realistic point of view it is worth envisaging the possibility of things working the other way round: an individual sees an opportunity for profitable spending and is thereby stimulated to get into debt to a bank—the bank offering its own indebtedness (deposits) in exchange. The remainder of the analysis needs no modification to fit this case of money supply responding to changed demand.

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dominate over holders of uncomfortably low balances. Accordingly there will be a *general* disposition to spend more on consumption or on investments. Spending more on consumption means that there is an increase in the money demand for consumption goods. On ordinary supply-and-demand lines we expect some rise in the prices of consumption goods and a subsequent tendency, perhaps, of supplies to increase. An increased money demand for investments has not such obvious effects on the price level, but again there is a tendency for certain prices to rise. The initial effect may be simply that people try to buy more of old securities. These can, however, only be transferred. Their prices rise, and there is a better demand than before for securities newly issued by businesses wanting to extend their operations. This stimulation of capital development leads to business men increasing their money demand for raw materials and factors of production, thus making the rise of prices more general. The increased money which people are trying to spend on investments tends in fact to fall ultimately into the hands of businesses which are thereby enabled to increase their money demand for goods and services.[1] Whether the surplus money balances are directed towards consumption or investment, therefore, the effect of rising prices tends to appear.

People cannot, as a whole, reduce their money balances. Individuals may pass them on; but the supply of money remains unchanged. But as prices rise, holders of balances have to revise their notions of what is a comfortable balance to hold. Prices have risen, so that their former average balances have become uncomfortably small relatively to their outgoings. Accordingly people cease, as prices rise, to feel that their new high balances are unnecessarily large, and cease to increase their rate of expenditure (on consumption and investment). Prices therefore cease to rise.

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[1] The connexion between the market for old securities and the entrepreneurs' demand for goods and services is unfortunately rather more complicated than this: the reader will find further elucidation in Chapter VI.

The above argument can easily be adapted to describe the converse process. A reduction in the total supply of money implies uncomfortably low balances on the whole. Contraction of expenditure follows, prices fall, and as prices fall the new level of balances again becomes adequate, and things can settle down at a new (lower) level of prices, and a new (lower) level of money balances. In short, given other conditions, there is to every level of money balances (i.e. to every supply of money) an appropriate general level of prices: increased supply of money tends to produce rising prices, decreased supply of money tends to produce falling prices. This Quantity Theory presumption holds good in whatever way the change in the supply of money comes about: for increased supply of money must mean that on the average people have surplus balances, and vice versa.

Rising and falling prices have certain unfortunate effects. First, there are the *distributional* evils. Certain money incomes—those of judges, clergymen, rentiers—are fixed either by law or by custom, and other money incomes—those of civil servants, doctors—are not changed at all rapidly as other prices change. Recipients of these incomes therefore enjoy an increased real income as prices fall, and suffer a reduction as prices rise. On the other hand, business men, deriving their incomes from profits, and ordinary shareholders find their money incomes increasing faster than prices are rising, since profits result when the costs, some of which are fixed by long contract, &c., have been deducted from the rising prices. Wage-earners who are in employment regularly tend to gain when prices fall, and lose when prices are moving up rapidly, though their wage-rates may sooner or later be adjusted to the changed level of prices. These redistributions of real income can in no wise be imputed to varying deserts: there is clear injustice between the contrasting classes of income-receivers when prices are moving decidedly upwards or downwards.

Secondly, there are the evil effects of rising and falling prices on *production*. As certain costs, particularly the prices of certain factors of production, are fixed by long contract, by law, or by custom, the entrepreneur who is faced by falling prices finds that production is becoming unprofitable, and, after a point, decides to reduce his output. Economic activity and the level of employment for wage-earners therefore decline. Resources which might have been used to produce useful things stand idle, while individuals suffer the distresses occasioned by unemployment. This contraction of output is by no means evenly spread. For one of the first ways in which a business man is likely to curtail his operations is by cutting down any plant extensions, and suspending replacement of worn-out plant. Accordingly the depression is likely to be particularly severe in the capital goods trades, and unemployment is most serious for people attached to those trades. But when prices are rising, the stickiness of costs leads to the profit margin widening, thus providing the entrepreneur with a motive for increasing his operations. Economic activity increases, unemployment declines. The 'boom' is, like the depression, more extreme in the capital goods trades, because extended operations mean full replacement and frequent additions to equipment. This looks very well, and would appear at first sight to be rather an advantage of rising prices. In some measure it is; but bitter experience has shown that a 'boom' of increasing economic activity and rising prices is always followed by a depression, and indeed theoretical analysis leads us to suppose that a slump must *inevitably* follow a boom which has developed to any appreciable extent.[1] The good time, though it has substantial attractions, is far from being as attractive as would be a period of full employment without an aftermath of depression.

[1] For this difficult matter see especially Harrod, *The Trade Cycle*.

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Rising prices and falling prices both, then, appear to have serious disadvantages; and changes in the supply of money appear to be among the possible causes of both. It behoves us therefore to find out who, in the modern world, regulates the supply of money, and on what principles their operations are based.

II. *The Sources of Money Supplies*

In the most advanced countries by far the greatest part of the supply of money consists of *Bank Deposits*, sometimes called 'Bank Money'. The Bank Deposit is simply a debt of a bank to an individual or corporation. In exchange for certain rights (to which we shall return presently) the bank enters in its books so much 'to the credit' of Mr. So-and-so. The latter may then settle his debts to other people by making over to them parts of his 'credit balance' or bank deposit. Almost all large payments are made in this way, the instrument by which the deposit is transferred from one person to another being the familiar 'cheque'. When one person pays another by cheque, what happens fundamentally is that the bank's debt to the payer (or 'drawer') is reduced by the amount of the cheque, and the bank's debt to the payee is increased by the same amount. The drawer has made over to the payee his claim against the bank. It is by circulating the debts of the banks (the credit balances of the public at the banks) in this way that most transactions are settled.

Generally, when the bank makes an entry of I O U in favour of a person, the transaction remains simply a book entry. The bank in its own books stands indebted to Mr. So-and-so to the amount given. That is the pure Bank Deposit. But sometimes Mr. So-and-so wants evidence of the debt in a different and more readily transferable form. In that event the bank enters the amount, not in favour of Mr. So-and-so specifically, but in favour of 'Bearer'. It then tears the page out and hands it to Mr.

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So-and-so, who becomes the first 'Bearer'. He, however, can readily pass it on, passing on in fact the claim against the bank, without the bank having to record the transaction in its books. When this is done the page which has been torn out of the bank's ledger is called a *Bank Note*. A Bank Note is therefore neither more nor less than visible evidence of a bank's debt, which can be passed round from hand to hand in settlement of all sorts of individual debts. This form of bank money has its advantages and disadvantages for both parties. To the banker, the note system has the advantage that he does not have to bother about entering the transfers from one individual to another. To the individual the note form has the advantage that he does not have, every time he makes a payment, to produce evidence that he has a bank deposit on which to draw. Cheque payments are convenient enough, but one is unwilling to accept a cheque in settlement of a debt unless one is reasonably sure that the drawer has a genuine deposit on which to draw. The bank deposit is very widely accepted in settlement of debts, but the individual cheque is accepted only when the payee is satisfied that there is a bank deposit behind it.[1] On the other hand, to the banker the note form has the disadvantage that he must take greater precautions against forgery. Forgery of book entries can be prevented by checking the honesty of clerks in the bank's employment; but prevention of forgery of bank notes involves careful designing and choice of paper, reliance on the honesty of printers, and so forth. To the individual the note form has first the disadvantage that the amount of the note—a round sum such as one dollar, one pound, or ten shillings—very frequently does not coincide with the amount of the debt which he wishes to settle. Secondly, it has the disadvantage

[1] This distinction is sufficient to justify describing bank deposits as money, while denying that cheques are money. But in any case, it should be clear that the 'money' is the bank deposit—the cheque is merely the legal instrument by which the deposit is transferred from one name to another.

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that the notes are as valuable to other people as they are to himself, whereas his cheque-book is, broadly speaking, of value only to himself. Consequently the settlement of debts by the payment of notes involves carrying about pieces of paper which other people have the incentive to steal, whereas settlement of debt by cheque is quite a safe procedure. If a man wishes to settle a debt of say £3 10*s.* he can pay by cheque (provided that his creditor has confidence in the existence of the debtor's claim on the bank), which merely involves carrying a cheque-book and filling a single cheque form. Or he can pay it in notes, which means that he must carry with him four separate pieces of paper (three one-pound notes and one ten-shilling note) all or any of which he may lose without much chance of recovery.

The Government may by law restrict the issue of notes to one or a number of banks. Practice in this respect varies from country to country, and is largely the outcome of historical accident; but there has been a general disposition to restrict note-issuing powers more and more, as a result of the spreading notion that the supply of money must be controlled by the State. In England note-issuing powers are now restricted to the Bank of England, but in Scotland a few other banks have strictly limited rights of issue. The State also sometimes says that certain notes shall be 'legal tender'. Money of any kind is 'legal tender' if the offer of it, in the exact sum, in settlement of a debt leaves the creditor no option but to discharge the debt. If a debtor offers non-legal tender money the creditor may decline to accept it without modifying his legal claim against the debtor. Bank deposits have never been constituted legal tender, but throughout the United Kingdom Bank of England notes are legal tender.[1]

In addition to money created by the banks there is money created by the State. This is sometimes in the

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[1] The large notes (£5 upwards) are legal tender in England and Wales only.

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form of notes, which are to all intents and purposes like bank notes, but derive their acceptability not from their constituting a claim against a bank but simply from a decree of the State constituting them legal tender. Such were the one-pound and ten-shilling Treasury Notes which circulated in England during the years 1914–28. More generally the State issues metallic coins of small denominations, such as one shilling, one penny, threepence, twenty-five centimes, ten cents, &c., which it constitutes legal tender for payment of small debts only, and which the public uses for convenience in paying small sums and odd amounts as supplements to note payments.

The supply of money thus depends directly on these two sources—the banks and the State. Only in most extraordinary circumstances—such as the 1923 inflation crisis in Germany—is any other body able to create money. If we want to know how the supply of money is controlled we must seek the motives which guide the banks and the State. In this chapter only certain very general points will be covered. The entire technique of monetary control will only become apparent as the book proceeds.

III. *The Process of Creation of Money*

Before examining the process of money-creation let us consider the relative amounts of money from the two main sources. For Great Britain the approximate figures for the end of 1936 were:

	£ millions
Bank Deposits (including Public Deposits and Other Accounts at Bank of England)	2,700
117 → Bank-notes in circulation	490
Silver and copper coin	80
Total . . .	3,270

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These are only round figures, but the import of them is clear enough—Bank Money forms an overwhelming proportion of the total supply of money. And even if we, in consideration of the peculiar position of the Bank of England, call Bank of England liabilities State Money, the proportion of Bank Money remains enormous. In his *Treatise on Money* Mr. Keynes gives figures showing that in the United States as well Bank Money is overwhelmingly important.[1]

Restricting ourselves for the time being to the operations of the ordinary joint-stock banks, we have to face the question, what induces the banks to get into debt to the public to these enormous amounts? For all the bank deposits are debts of the banks. The banks have voluntarily entered in their books I O U's to all sorts of people, to an aggregate running into thousands of millions of pounds. What has induced them to do so? They are profit-seeking corporations. They are induced to become debtors to other people by those others offering in exchange certain claims, the capital value of which is supposed to equal the sum of the bank's liability, and which bear interest. It is from the interest payment on these claims that the bank derives its income. Provided that it is successfully managed, the bank's assets therefore always equal its liabilities. The bank 'deposits'—i.e. the debts of the bank to the public—are always covered by the assets which people have offered to the bank in exchange for deposit claims against the bank. The process of 'creation' of bank deposits is essentially an exchange of claims. The member of the public offers a claim of some sort—such as legal tender state money, or a government bond or a mere promise—and the bank offers a book debt called a bank deposit. The enormous economic significance of this exchange of claims lies in the fact that the claim against the bank—a debt which did not previously exist—can be used as general purchasing power. It is *money*, whereas the debt against which it was exchanged is not money. The operation therefore adds to the total supply of money.[2]

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[1] Vol. i, p. 32.

[2] Except of course in the case of legal tender state money being taken

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We shall be returning in later chapters to some detailed observations on the assets which a commercial bank acquires. Here it must suffice to give the broad outline. The overdraft system of the banks is well known. In return for an undertaking on the client's part, an undertaking often reinforced by the handing over to the bank of some negotiable security of which the bank may dispose if the client fails to meet his obligations, the bank allows the client to 'overdraw' his account. That is to say, the client is allowed to draw cheques beyond the amount previously standing to his credit in the bank's books, up to the limit set in the overdraft arrangement. This limit will usually be well covered by the market value of the negotiable security left in the bank's keeping. This overdraft facility is equivalent to a bank deposit in representing part of the supply of money with which individuals can buy goods and services, and it becomes part of the visible supply as the right to overdraw is exercised and other people (recipients of the borrower's cheques) acquire claims against the lending bank. Those claims are money, since people are prepared to accept them in settlement of debts. The borrower undertakes that by the end of, say, three months he will have acquired from other people various kinds of money—State-issued money or claims against this and other banks—to the amount of his overdraft. These claims he hands over to the bank, thus paying off his accumulated debt. In addition he is obliged to pay interest—i.e. he has to provide additional money, so much per cent. on his overdraft, as a payment for the use of the money for the given period. It is out of this additional money that the bank makes its living. So far as giving and receiving claims in loan and deposit transactions are concerned, it will, if every one meets his obligations, finish 'all square'. The income of the bank depends on the additional claims it makes against people who incur debt

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by the bank—in which case the public has merely altered the *form* of the money it holds.

to the bank, either directly by loan or overdraft arrangements, or indirectly by the bank acquiring the claims from previous creditors of those people.

When the system by which banks lend to individuals and firms is not the overdraft system but the loan system the process is even simpler in its effects on the supply of money. The borrowing client gives certain undertakings and also perhaps provides 'collateral security' as suggested above. The bank at once places the sum of the loan to the credit of the client: its debts are increased by that amount, and, since its debts constitute money, the supply of money is increased by the amount. At the same time the assets of the bank have increased by the amount of the loan. Its liabilities and its assets have increased by equal amounts. Were the amount £1,000 and were this the sole operation of the bank the balance sheet would be:

Liabilities	£	*Assets*	£
Deposits (i.e. Credit balances of clients) . . .	1,000	Loans to clients . . .	1,000

The gross income of the bank would be increased by whatever interest charge it made for the loan. Out of this gross income it might pay a lower rate of interest on clients' credit balances, and it would have to meet its costs of administration. Any remainder would be a net profit.

As the borrowing client pays away the £1,000, by cheques drawn in favour of other people, the liabilities of the bank become liabilities not to that client but to the payees of the cheques. What happens next depends on what those payees choose to do with their claims against the bank.

Instead of the borrower undertaking to make certain payments to the bank in return for the loan, he may choose to finance himself by drawing a bill of exchange. To the details of bills of exchange we shall return later. Suffice it now to say that it is in effect a written promise to pay a

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sum at some future date, usually guaranteed by some reputable finance house. Then a person with funds to spare can 'discount' the bill, which means he can pay a sum of money for it now, the sum being slightly less than the sum promised in the bill. When a bank discounts a bill of exchange it in fact acquires the bill as an asset, giving in exchange a deposit—i.e. incurring debt to a client. Its liabilities and its assets are increased by the same amount. Its balance-sheet still balances; but its gross income is enhanced by the difference between the sum it pays for the bill and the sum which the bill says is payable at the named date ('maturity'). This difference is called the 'discount'.

Another way in which a bank may add to its debts is by the purchase of securities—such as government bonds. The bank pays for the bonds by a cheque on itself[1]—i.e. it gives a debt in exchange for the bonds which become part of its assets. The balance-sheet shows change on both sides:

Liabilities	£	*Assets*	£
Deposits (i.e. debts to clients)	1,000	Investments (Government bonds) . . .	1,000

The process is precisely the same when the bank acquires land or buildings for its offices.

A bank will also give a credit balance (i.e. incur a debt) to anybody who offers it a claim against another bank. This happens for example when Smith who banks with Barclays draws a cheque in favour of Jones who pays it into his own account at the Midland. In that instance there has merely been a transference of indebtedness between banks—no increase. The original balance-sheet positions of the two banks may be supposed to have been thus:

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[1] Or it may give a cheque on its balance with the central bank. The effect is precisely the same, for the payee at once exchanges this claim for one against his own bank (he pays the cheque into his account) and aggregate public claims against the banks are increased by the given sum. The settlement of any inter-bank indebtedness which may arise is discussed later.

MIDLAND BANK

Liabilities	£	*Assets*	£
Deposits (Jones)	1,000	Bills discounted and investments, &c.	1,000

BARCLAYS BANK

Liabilities	£	*Assets*	£
Deposits (Smith)	2,000	Loans, &c.	2,000

Smith then draws a cheque for £500 which Jones pays into his own account. The immediate effect on the position of the two banks is shown below:

MIDLAND BANK

Liabilities	£	*Assets*	£
Deposits (Jones) . .	1,500	Bills discounted and investments, &c. . . .	1,000
		Claims against other banks (Barclays) . . .	500
	1,500		1,500

BARCLAYS BANK

Liabilities	£	*Assets*	£
Deposits (Smith) . .	1,500	Loans, &c.	2,000
Claims of other banks .	500		
	2,000		2,000

This will not be the final position, as Barclays and the Midland will settle their inter-bank indebtedness by some transfer of assets from Barclays to the Midland. Barclays' assets will go down by £500 whilst the Midlands' assets go up by £500. Which particular assets are transferred we shall see later. But it is clear that there has been no increase in the supply of money. All that has happened has been that the composition of the supply has changed, in that more of it is now Midland Bank debts and less is Barclays bank debts, and of course the ownership of the money has passed from Smith to Jones. The banks are less in debt to Smith and more in debt to Jones than before. Jones has more purchasing power at his disposal than before; Smith has less. The aggregate supply of purchasing power is unchanged.

One very important kind of asset which the banks may acquire in exchange for a deposit liability we have not yet mentioned. This is 'Cash'. Cash consists of state money (in Britain now only silver and copper coin) and of liabilities of the central bank, or bankers' bank (in Britain, the Bank of England). The liabilities of the central bank may be either book liabilities—i.e. deposits with it—or the bank-notes to which we referred earlier. When a client 'pays in' a wad of notes and some odd silver and copper coins, say £31 17*s.* 9*d.*, he acquires a deposit to that amount. The bank, that is to say, becomes indebted to the client to the amount of £31 17*s.* 9*d.* Its balance-sheet will have the following items added:

Liabilities	£	*s.*	*d.*	*Assets*	£	*s.*	*d.*
Deposits . . .	31	17	9	Cash in hand . .	31	17	9

When a client draws a cheque to 'self' and takes it to the bank for cash, or receives a cheque from some one else and goes to the bank to 'cash it', the process is precisely reversed—Deposits go down and Cash in hand goes down. As, for reasons we have seen above, individuals sometimes prefer to use cash and sometimes cheques, cash is continually crossing the bankers' counters. Retail tradesmen are continually paying it in (exchanging cash for bank deposits) and employers of labour and spenders of incomes which have been paid by cheque are continually drawing out cash (exchanging bank deposits for cash). Passing cash across a bank's counter is essentially changing one kind of money for another—the proximate result is no change in the aggregate supply of money in the hands of the public. That further results may follow any decided net change in its composition is shown below, in Chapter II.

The book claims against the central bank, i.e. the

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deposits at the central bank are another form of cash. It is worth ignoring, for the time being, the fact that the central bank may act as banker to the Government and to other people. Let us consider solely its operations as bankers' bank. Now the other banks choose to hold deposits at the central bank because it is convenient to settle inter-bank indebtedness by transferring their deposits at one bank—the central bank. If, as we saw above might happen, one bank becomes indebted to another the debt can be settled by a book entry at the central bank, the deposit there of the creditor bank (the Midland in our example) being raised and the deposit of the debtor bank (Barclays) being reduced. The aggregate debts of the central bank have not changed; but it now owes more than before to the Midland and less than before to Barclays.

As transactions between members of the public are always leading to a flux and reflux of cash to and from the banks, and to inter-bank indebtedness, every bank finds it essential to hold as part of its assets, cash in hand (till money) and at the central bank (bankers' deposits). This cash holding is called the 'cash reserve', and we shall have much more to say about its significance in succeeding chapters. The cash reserve is, to the banker, less attractive than the other assets because it brings him no income. He is obliged to hold it owing to the monetary habits of the public and the structure of the banking system.[1] But once any important section of the public has developed the banking habit the cash reserve need not bear a high ratio to aggregate assets. Consequently, in the world as we know it, bankers have ample inducement to create debts to other people, and that means creating purchasing power. It is important to remember that the banks put this newly created money into the hands, not of everybody at once, but of those individuals who can offer to the bank the kind of asset which the bank thinks attractive. We con-

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[1] In some countries the obligation to hold a cash reserve is a legal obligation.

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clude then not only that the banks are important as creators of money, but also that they distribute that money into particular channels. The direction of the flow of production appears to be dependent on the supply of money and the supply of money on the flow of bankers' assets.[1]

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[1] Not simply on the aggregate amount of bankers' assets appearing. It will become apparent in Chapter II that the composition of those assets (particularly the distribution between cash and other assets) is of great significance in influencing the total supply of money. The influences which govern the bankers' operations are dealt with in subsequent chapters.

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CHAPTER II

COMMERCIAL BANKING

I. *Structural Questions*

THE banking systems of different countries vary enormously from one to the other; but they have all been tending in the last few decades to gravitate towards 'central banking systems', the archtype of which is our own system. These systems fall into three parts: the central bank, the commercial banks, and various ancillary institutions dealing in certain restricted types of credit. We shall deal with the central banks in Chapters IV and V, with commercial banks in this chapter, and with some of the most important ancillary institutions in Chapter III. Some overlapping is inevitable.

The distinction between central and commercial banks turns essentially on their objects. The commercial bank thinks primarily of profit-making, whereas the central bank thinks primarily of the effects of its operations on the working of the economic system. If the commercial bank is taking a sufficiently long view it will forgo some immediate profits for the sake of stability; but it is competing with other banks and cannot afford degrees of far-sightedness and altruism far beyond those of its competitors. It has its shareholders and must do the best it can for them. The central bank also frequently has its shareholders, to whom it is expected to pay a dividend after paying all its expenses; but though cases have existed of central banks altering their course in order to avoid a loss of income, this is a departure from central banking principles. The commercial banks may be few or many. They trade with the general public. There is only one central bank in each country, and it does little if any ordinary banking business for the general public: it restricts itself in the main to controlling the operations of the rest of the banking system.

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In England we generally refer to our own commercial banks as 'joint-stock banks'. The custom is open to objection since the Bank of England, though not a commercial bank in the sense in which we are using that term, is also a joint-stock company, while the old private banks were commercial banks though not joint-stock companies. But the custom is firmly established and convenient enough. If, in writing of the English system, we use the term 'joint-stock banks' this must be considered interchangeable with 'commercial banks'. In the United States the commercial banks are nowadays frequently referred to as 'the member banks', though there are still some commercial banks (some of the 'State banks'—banks registered under State, as opposed to federal, laws) which are not member banks. But there is a substantial amount of identity between the two categories, and a reference to 'the member banks' when one means 'the commercial banks' is pardonable enough.[1] For the Continental commercial banks the term 'credit banks' is often used, in distinction to the investment banks, though the distinction between these two types of institutions is often in practice blurred.

Now that the joint-stock company system has for long been firmly established in almost every country of importance, the typical commercial bank in most countries is a very large institution having a large number of branches scattered all over the country, or at any rate over a large section of it. This is the 'branch-banking' type, the best examples of which are perhaps those of England, Canada, South Africa, and Australia. In England, for example, an enormous proportion of all the banking business is done by the 'Big Five'—the Midland, the Westminster, Barclays, Lloyds, and the National Provincial; most of the remainder being done by the smaller branch systems, more limited geographically (Martins and the District are leading examples). The United States still maintains the opposite and original type—the 'unit banking' system. In this system the bank's operations are confined in general to a single office, though some few are allowed to have branches within a strictly limited area.[1] This legal restriction of the area of operations of an American bank is the outcome of the traditional fear of a 'Money Trust', and particularly the suspicion with which the operations of the New York financiers are viewed in the Middle and Far West. Even central banking in the United States has been affected by this powerful historical force—the central bank of the United States is a federation of twelve banks, each with its own region. Like the unit banks in the mid-nineteenth-century English banking system, the unit banks of America are linked together by the 'correspondent bank' system. A country bank deposits some of its cash reserves with a bank in the nearest big city, and those bigger banks themselves send funds to the great centres Chicago, St. Louis, and above all New York. Remittances of funds from one part of the country to another can be made through the 'correspondent banks'—i.e. by transference of these funds in the great centres from the name of one country bank to that of another country bank. By this correspondent bank system unit banks are enabled to enjoy some of the advantages of a branch banking system. In comparing branch banking with unit banking we must accordingly remember that unit banks are not entirely independent of each other but are connected by the correspondent bank system.

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[1] This was not always so, for just as the private banks used to constitute a substantial part of the English system, so, *until 1932*, did non-member banks constitute a substantial part of the American system. Member banks are those which have entered the Federal Reserve System.

Before discussing the comparative advantages and disadvantages of unit banks and branch banks, let us summarize the functions of commercial banks. Commercial banks carry on 'ordinary banking business' with the general

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[1] A useful book on commercial banking in the U.S.A. before 1933 is Goldschmidt, *The Changing Structure of American Banking*. See Chap XXXIII 'Recent developments in American Banking' Mackenzie's Banking Systems of Gt Br, Fr, Germany & USA (Macmillan) p 231; pp 879 [illegible] H. Parker Willis Encyc.

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public. And what is 'ordinary banking business'? These banks have actually developed all sorts of miscellaneous services, such as executor and trustee services; but it is not these purely ancillary functions of which we are thinking when we write of 'ordinary banking business'. Ordinary banking business consists of changing cash for bank deposits and bank deposits for cash; transferring bank deposits from one person or corporation to another; giving bank deposits in exchange for bills of exchange, government bonds, the secured promises of business men to repay, and so forth.

The 'bank deposits' are merely I O U's written in the books of the banks, and, as we have seen in Chapter I, their significance is derived from their general acceptability as money. The acceptability as money of deposits in a particular bank depends on complete confidence in the ability of that bank to exchange its promises (deposits) for other forms of money (directly or indirectly cash) on demand. This is what is meant when it is said that a bank must be *liquid*. 'Liquidity' generally means capacity to produce cash on demand for deposits.[1] A bank must therefore so conduct its business as to maintain liquidity. The lower the cost of maintaining liquidity the more efficient is the bank. Except by transferring its earning assets (bills of exchange, loans, &c.) to other banks an individual bank can only maintain liquidity by holding an adequate 'reserve' of cash—cash being unfortunately an asset which brings no income to the bank. The more readily transferable are its earning assets therefore, the lower the barren reserve which must be held—and accordingly, the lower is the cost to the bank of maintaining liquidity. The form of bank in which earning assets are most readily transferable is therefore, *ceteris paribus*, the most efficient form. The necessity of maintaining liquidity also implies that a bank must, in order to maintain its position as a bank, avoid losses—for incurring losses means depreciating assets, and that cannot go on for ever without the cash reserve running short.

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[1] For further observations on the concept of Liquidity see Chapter IX.

Let us bear in mind, as we compare the merits and demerits of unit and branch banking, these functions of the banks, and these liquidity considerations which affect the success of their functioning. A comparison between unit banking and branch banking is essentially a comparison between small-scale and large-scale operation. The large concern—the branch bank—secures certain economies of large-scale production, which are, however, limited by the nature of the market for the services of bankers. The branch bank enjoys the advantages of division of labour—some of its more able employees can devote their whole time to the broader problems of bank management, such as the distribution of assets, the rules to be applied to collateral security offered by business men seeking loans, the recruitment of staff, and so forth. In more lowly work in the banks the possibility of pushing the principle of division of labour very far is limited by the fact that operations are necessarily divided between branches, and the extent to which the division of labour can be carried within a small branch is as limited as it is in a unit bank office of the same size. The economy of reserves is of enormous importance for, as we have seen above, the maintenance of adequate reserves is absolutely vital to the banker. The large bank can afford to hold a lower cash reserve in each office, for one office can draw on another—by transferring assets or by borrowing—far more readily than can one unit bank draw on another unit bank in the same way. The system of correspondent banks modifies the disadvantage here of the unit bank, but only slightly, for deposits with a correspondent bank are relatively unremunerative. The cheapness of doing remittance business (the sending of money from one place to another for clients) is much increased by the conveniences of the branch system, for inter-office indebtedness can be far more easily adjusted. The correspondent system enables the unit bank to offer the client service comparable with that afforded by the branch bank but not at as low cost.

The spreading of risks geographically is an advantage to the branch banking system. It is true that the existence of the trade cycle implies times of universal good trade and times of universal bad trade. Were the trade cycle the only cause of business losses, there would be little to choose between unit banks and branch banks—for all the branches of the latter would be losing at once. Even then the unit bank system would, however, be at some disadvantage, for the capital goods' industries suffer most in the depression, and they may well be strongly localized—thus upsetting banks whose activities were confined to those particular areas. But in addition to the trade cycle particular industries are subject to secular rises and declines (which are occasionally sharp) as a result of changes in tastes, changes in technique, &c. In so far as declining industries are strongly localized, unit banks depending on those areas may incur severe losses and actual collapse may follow, whereas the losses incurred by branch banks in those areas may be offset by profits earned by branches of the same banks in the more prosperous areas. For example, the chronic depression of sections of American agriculture even before 1929 was one of the causes of the hundreds and hundreds of small bank failures which seemed so incompatible with the general prosperity of the United States at that time. In the same years the English branch banks were incurring heavy losses in the Lancashire cotton industry. But, thanks to their other business in more prosperous parts of the country, their cotton losses were not of sufficient weight to break the English banks. If, in these post-war decades, we had had unit banks confined to the Depressed Areas it is simply inconceivable that the English banking system as a whole could have avoided serious internal crisis.

So far the advantages have weighed heavily in favour of the branch banking system. But we must recall here

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Adam Smith's celebrated dictum, 'The division of labour is limited by the extent of the market'. The market for the services of a particular bank is not necessarily limited by national frontiers; but there are substantial disadvantages once the frontier is crossed. Commercial law, business customs, and conditions vary so much from one country to another, as well as the monetary unit and the language being different, that banks generally confine their main operations to one country. Where they have overseas business it is generally conducted by subsidiary companies which have more or less independent managements. Within a country it is often suggested that market conditions are in fact so localized that unit banks are more useful than branch banks. It is said in particular that the local banker will have direct personal knowledge of the local business men, and will know which of them have and which have not the aptitude for business and the soundness of moral principles which are desirable in a borrower. The old English private banker, it was sometimes argued, knew all the family histories and would know therefore which young business men were worthy of assistance. Against this it may be suggested that the argument works in the opposite direction—family history is not an invariably good guide to credit-worthiness, and the individual banker may have been too unwilling to refuse a loan to the incompetent or dishonest scion of a family with which his father and grandfather had been on intimate social terms. The English branch banks of to-day have perhaps learned to get the best of both worlds in this matter. They encourage their employees to mix with the local clients on the golf course, and select and pay them accordingly. The local manager may then acquire personal knowledge, approaching that of the old individual banker, of his clients and their families. At the same time the remoteness of Head Office and the local manager's subjection thereto enables him, when he has to refuse a loan, to do so without the social awkwardness which might arise if he

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took sole responsibility for the decision. The local manager can always place his personal knowledge of a client at the disposal of Head Office, and, if there is occasion to refuse a loan, he can always thrust the unpleasant onus on to that remote abstraction 'Head Office' without running so much danger of terminating his social contacts with the client.

The advantages are thus overwhelmingly in favour of the branch banking system, and we should therefore expect the more primitive banking systems of the world to develop in that direction. In the United States the normal course of development has been impeded by legal restriction, and any change of system there depends consequently on the possibility of a change in the law. In India, the most important other country where banking is predominantly in the hands of unit banks, there are special obstacles analogous to those which hinder the spread of banks beyond international frontiers, and we shall return in a later chapter to some discussion of that special case. Over the rest of the world development of banking systems appears to be bringing them more and more closely in line with the structure of commercial banking which exists in England and the Dominions. There is accordingly some justification for treating that structure as the general case, and then giving separate attention to the American system as something exceptional.

II. *The Bankers' Clearing House*

Among the functions of commercial banks enumerated above there was an item, the transfer of bank deposits from one person to another. If there is a system of branch banking the transfer of a deposit of Mr. A. in London to the account of Mr. B. in the Oxford branch of the same bank is simple enough—the entire transaction is internal to the bank concerned. A system of unit but corresponding banks manages to achieve almost as great simplicity—provided of course that the banks in the two places are corresponding banks. But when the debtor and creditor—

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the drawer and the payee of the cheque—bank with unconnected banks this simplicity disappears. When A, who banks with Barclays, writes a cheque in favour of B, who banks with the Midland, how is the deposit actually transferred from one to the other?

The connexion between the two banks is made by the *Bankers' Clearing House*. The business of 'clearing' inter-bank indebtedness in London is distributed between various parts of the London Clearing House, which deal with Town (i.e. City financial district), Metropolitan, and Country respectively. There are also Clearing Houses in the great industrial towns in the provinces, dealing with local cheques, and less formal arrangements in every other large town. We may, however, confine our attention to the London Clearing House, and ignore its internal divisions.[1]

Every day individuals all over the country are sending cheques drawn on their accounts at one bank to people who bank with other banks. There will be a continual stream into each bank of cheques drawn on each of the other banks. Those cheques constitute claims to deposits in those other banks, and the bank receiving the cheques is, therefore, becoming a creditor of each of the other banks. At the same time, each one of the other banks will have been receiving cheques, paid in by its own customers to be added to their accounts, drawn on the bank we have been considering. To the amount of those cheques, that first bank will be running into debt with the other banks. They have claims against it to the amount of the cheques. All these cheques which have found their way into the wrong banks are collected twice a day and taken to the Clearing House. There Barclays' Bank, for example, will find itself in debt to each of the other banks as they present cheques drawn on Barclays and paid over their counters; and Barclays will, on the other side of the account, be presenting each of the other banks with cheques drawn on them. The various amounts are added up and offset against each other. Barclays may then find that it has paid a million pounds more on Lloyds' cheques than Lloyds has paid on Barclays' cheques. They exchange cheques and Lloyds remains a million pounds in debt to Barclays. Suppose with all other banks both these banks find their debits and credits equal, then Lloyds settles the account by drawing a cheque on its own deposit in the books of the Bank of England. Actually each day's transactions will be rather more complicated than this; but the essential process is clear enough—inter-bank indebtedness arising from transfer of deposits from one person to another is offset as far as possible; any remaining balances being covered by transfer of Bankers' Deposits at the Bank of England.

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[1] My intention being to give the general principles only. Details may be sought in Truptil, *British Banks and the Money Market*.

In our example the position after that particular clearing will be that Lloyds deposit liabilities to the public will have decreased by one million pounds (its customers having received a million pounds less from customers of other banks than they have paid to them) and, on the assets side its 'cash at the Bank of England' will also have gone down by one million pounds. Barclays' deposit liabilities to the public will have risen by one million pounds and so will Barclays' 'cash at the Bank of England'. The *aggregate* bank deposits in the country will not have been affected by the operation; nor will the aggregate of 'cash at the Bank of England' ('Bankers' Deposits' as they are generally called). The entire process is a transfer having no monetary significance. The general run of banking business in the country will normally lead to these transfers being small and purely temporary; but if there arises a pronounced tendency for people to bank less with Lloyds and more with the Midland, there will be a continued decline in Lloyds' deposit liabilities and equally in its cash reserve. The equal absolute fall in the two figures implies a fall in the ratio of cash to deposits in

Lloyds Bank, and a pronounced movement of this kind would oblige the losing bank to curtail its general lending operations sooner or later. But of the significance of the cash ratio more anon.

III. *The General Control of Banks over Deposits*

We have seen in Chapter I that Bank Deposits are simply entries in the books of banks, saying that persons and corporations have such and such a claim against the banks. These promises are considered by the holders to be balances of general purchasing power. So long as people can be induced to accept these bank liabilities in exchange for assets which they surrender to the bank (including their own claim to money in the future) the banks can create deposits simply by acquiring more and more assets. The assets are then held as 'cover' for the bankers' liabilities to the public. The general nature of the assets actually held by the banks in England and the United States is apparent in the following tables which are taken from aggregated balance-sheets of almost all the commercial banks in the two countries.

ANALYSIS OF LONDON CLEARING BANKS' FIGURES

June 1937

(£ millions)

Liabilities		*Assets*	
Deposits on Current Account	1,253	Cash in hand and at Bank of England	241
Deposits on Deposit Account	1,022	Money at Call and Short Notice	171
		Bills discounted	259
		Advances	963
		Investments	654

FEDERAL RESERVE REPORTING MEMBER BANKS

15 July 1937

($ millions)

Demand Deposits	15,186	Loans (total)	9,760
Time Deposits	5,235	Investments	12,530
Government Deposits	547	Reserve with Federal Reserve Bank	5,400

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The absence of equality between assets and liabilities in the English table is due mainly to the exclusion of shareholders' capital on the liabilities side and the item Bank Premises, &c., on the assets side. These items have also been excluded from the American table, which also excludes the large items of inter-bank indebtedness arising from the correspondent bank system. The items given are those variable items which are of great monetary significance. The division of deposits in both tables is due to the arrangements with customers about the liability of the banks to exchange deposits on demand. Deposits on Current Account in England and Demand Deposits in the United States are subject to transfer or cashing by cheque at sight. The Deposits on Deposit Account in England and Time Deposits in the United States are exchangeable nominally only after some notice has been given. For some purposes the two classes must be considered separately, and the distinction is discussed in some detail in Chapter X; but as customers can convert one class of deposits into the other without the banks taking any action—bank action only affecting total deposits—it is permissible to take the total figures for this first approach to the problem of commercial bank operations.[1]

The item Government Deposits does not appear in the English table as the British Government's balance is held by the Bank of England, which is excluded from the table. In comparing the assets sides of the two tables it is convenient to think of the Cash in hand and at the Bank of England as equivalent to the American item Reserve with Federal Reserve Bank. Strictly the Reserve with the Federal Reserve Bank is paralleled by Cash at the Bank of England only, as the American banks have also to hold till-money (notes and coin) which is not included in the table. But the 'cash ratio' to which the American banker is bound

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[1] This chapter must accordingly not be considered as exhaustive, even in an elementary way. All the conclusions are subject to such modifications as are suggested in later chapters.

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by law to attend is the ratio of his deposit at the Federal Reserve Bank to his deposit liabilities to the public, while the cash ratio to which the English banks customarily attend is the ratio to deposits of their reserves at the Bank of England *plus* their till-money. As we shall see that these 'cash ratios' are of enormous significance, we can conveniently take as comparable the English banks' Cash in hand and at the Bank of England and the American banks' Reserve with the Reserve Bank. Should we wish to compare the profitability of banking in the two countries we should of course have to remember that the American item does not exhaust the list of non-earning assets. For that purpose till-money would have to be added.

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The item Loans (total) in the American table may be considered comparable to the total of the English items Money at Call, Bills discounted, and Advances.

In comparing the two tables it will be noticed that the distribution of assets is quite different in the two countries. In England loans of various kinds form a much larger proportion of the total than they do in America, whilst cash, for instance, is much lower. To some extent this difference is due to the quite extraordinary circumstances of American monetary affairs in the present decade, and is by no means typical. But even if we compared figures for more 'normal' years we should still find marked differences. And the same would be true if we were comparing, say, Australian and Canadian figures in both of which, however, the Loans proportions would be far higher than in the English or American figures. The distribution of banking assets in fact varies enormously from country to country, according to the structure—or absence—of the money-market, the wealth of the business classes, and the general commercial and industrial structure of the country. Arguments which are given in terms of English banking methods can be applied to other systems only when appropriate modifications of the argument have been made. We

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shall return in Chapter IX to certain outstanding problems of the distribution of banking assets.

To return, then, to the English table. *Cash in hand* means Bank of England notes and coin in the tills and vaults of the commercial banks. *Cash at the Bank of England* means a book entry, a deposit in the Bank of England in favour of the bank. It should be noticed that the combined cash item therefore consists, apart from the unimportant part which is coin, of liabilities of the Bank of England. The cash reserve thus consists fundamentally of central bank I O U's. In the American table the same fact is obvious. *Money at call and at Short Notice* means loans to certain firms in the City, loans which are repayable either on demand or at a week or two's notice. The banks have in the past given deposits to these firms in exchange for their promises to repay at call or short notice. The firms will have paid away the greater part at least of the deposits to other people; if they are called upon to repay they must in some way or other obtain command of deposits which now stand in other people's names. *Bills discounted* are virtually I O U's (or post-dated cheques) which the banks have bought. The banks hold these pieces of paper, having given for them deposits. At the due date (i.e. at the maturity of the bills) the drawers of the bills are under obligation to provide bank deposits to the face value of the bills. The bill of exchange is therefore a particular type of promise to pay, and the item Bills Discounted represents loans to people who have drawn the bills. *Advances* are the better-known loans—frequently in England on the overdraft system—to industrialists, professional men, and so forth. The banks allow the business men to pay deposits to other people on the understanding that they will, at the end of three months or so, obtain deposits for repaying the bank if called upon to do so. *Investments* are long-term securities, especially British Government and other Empire government securities. When a bank buys a *new* government security it

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places at the disposal of the government a bank deposit. When it buys an *old* security through the Stock Exchange it places a deposit at the disposal of the person who has sold the security.[1]

All these assets except cash bring some income to the bank. They are 'earning assets'. Accordingly the commercial bank, aiming at maximizing its profits, has an incentive to add and add and add to its earning assets. But adding to earning—or indeed any—assets has the effect of increasing the aggregate of bank deposits—i.e. increasing the supply of money. What factors check the banks in their increasing assets in order to increase their income? With one exception the factors can be summarized in the phrase *the desire for liquidity*. The most liquid asset is 'cash' and, in the English system, Money at Call and Short Notice and Bills Discounted are almost as good, since they can always be shifted to the Bank of England in exchange for deposits there (i.e. cash). The other assets—Investments and Advances—are regarded as less liquid, the Advances being the least liquid of all, because it is so difficult to shift mere promises to pay on to any other bank. An individual bank never wishes to drive a borrowing industrialist into the arms of one of its competitors, nor will the Bank of England relieve a commercial bank of such assets.

The standards of liquidity which are in fact maintained in a more or less exact way by the English banks have no legal sanction, nor are they based on a long tradition. But they have acquired such a vogue that the commercial banks can generally be expected to regulate their business along the determinate lines set by the customary liquidity standards. In general, these standards are two: (1) the cash ratio should be about 9 per cent. of deposits; and (2) the 'liquid assets' (cash, Money at Call and Short Notice, and Bills of Exchange) should be altogether about 30 per cent. of the total deposits. Of these two minima the former is the more rigid; and it is perhaps more realistic to say that the banks seek to maintain a 9 per cent. cash ratio provided that the total liquid assets are not far from 30 per cent. of total deposits. If total liquid assets fall much below 30 per cent., then the cash ratio is allowed to rise somewhat above 9 per cent. If total liquid assets rise much above 30 per cent., then the cash ratio may be allowed to fall slightly below the customary 9 per cent. The second rule being a slightly indefinite modification of the first we may for a moment ignore the second, qualifying our argument afterwards to allow for the influence of the second liquidity rule. We shall also for the time being ignore the non-liquidity consideration—the banks' view of the existence of any unacquired profitable banking assets—which may at times modify their action in regulating the volume of deposits.

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[1] As this is sometimes a point of difficulty it may be as well to summarize the proceeding. Lloyds buys a bond through the Stock Exchange paying, say £1,000, for it with a cheque on its balance at the Bank of England. Mr. A has sold the bond and directly or indirectly receives the cheque for £1,000, and pays it into his account at Barclays. Barclays' Total Deposits go up by £1,000, and when they present the Lloyds cheque to the Bank of England, through the Clearing House, Barclays cash goes up by £1,000, Lloyds going down by the same amount. Lloyds Investments have gone up by the amount their cash has gone down, their deposits are unchanged, and Barclays are up by £1,000. If Mr. A banks with Lloyds then there is no redistribution of cash; but Lloyds Investments and Lloyds deposits both go up by £1,000.

Given, then, an intention on the part of the commercial banks to maintain a stable cash ratio, how is the volume of bank deposits regulated? As the banks, in their desire to add to their incomes, add to their earning assets, certain quantities besides the earning assets change. Total deposits increase, while the absolute cash reserve remains unchanged: the cash ratio therefore falls as the volume of deposits rises. This tendency is apt to be reinforced by the fact that as total deposits increase, prices and the total volume of transactions may sooner or later increase, causing an increase in the public's demand for notes, &c., in circulation. The public draws notes out of the banks,

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who find their *absolute* cash reserves falling while the total volume of deposits has increased. The cash ratio is thus subject to decline on two accounts—the increase in deposits and the drain of cash into circulation. Given the absolute size of the cash reserves in the hands of the commercial banks, there is accordingly a maximum appropriate total of deposits, which leaves the banks with the conventional ratio of cash to deposits. If the ratio is 9 per cent. and the cash reserves are £90 millions, the banks can maintain deposits at £1,000 millions. If, with cash reserves of £90 millions, the aggregate deposits are below £1,000 millions, the banks can afford (and will be induced by the prospect of bigger incomes) to acquire more earning assets, raising the value of deposits from say £900 millions to £940 millions, when £4½ millions of cash has gone into circulation. Suppose, on the other hand, that cash is £75 millions when deposits are £1,000 millions, the banks pursuing the liquidity standards will sell some earning assets. As they do so deposits decline. The decline in deposits may force poorer trade on the country and some cash will flow into the banks from circulation—say £6 millions by the time the deposits have shrunk to £900 millions. Then once more the cash ratio will be at 9 per cent., and the banks will be satisfied. If trade continues to decline and business men keep paying off advances, the banks will simply replace these advances by investments or other earning assets—there will be no further decline in *total* assets and therefore no further decline in deposits. The banks, subject to the supply of 'cash' and the public's demand for cash, have absolute control over the volume of deposits. The fact that they maintain a fixed ratio simply means that they hand over to some one else the responsibility of determining the volume of deposits. That 'some one else' is the central bank. And it should be clear by now that if the central bank can control the supply of cash and allow for the public's demand for cash for circulation, the volume of bank deposits is absolutely determined.

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The central bank wanting the commercial banks to be responsible for a certain amount of deposits has only to create the amount of cash for circulation which is appropriate to that level of deposits, *plus* the amount of cash which will give the commercial banks their customary cash ratio to that level of deposits—*always provided that the banks can be relied upon to maintain that cash ratio*. If the central bank wants the volume of deposits to increase, it must create more cash—the commercial banks can be relied upon to do the rest without overstepping the limits set by the central bank.

This dependence of the central bank's power over the commercial banks on the latters' maintenance of a stable cash ratio is absolutely fundamental. Were the banks prepared to vary their cash ratios indefinitely any form of control of ordinary commercial banks by central banks would be impossible. It is important, therefore, to examine the ways in which the commercial banks may be induced to alter their cash ratios.

First it is necessary to refer to a peculiar system known as 'window-dressing' which allows the English commercial banks to vary their true cash ratio without departing from the published cash ratio which is considered proper. The 'Monthly Statements' of the Clearing Banks are made up in different ways for different banks. It is generally believed by outsiders that the Monthly Statement published by the Midland Bank gives a true average of the daily balance-sheet, or at any rate something which very closely approaches this. But some at least of the other banks give an average of the position on each of the four Tuesdays, *or* four Wednesdays *or* four Thursdays, &c., of the month; and by making the day for balance-sheet purposes say Tuesday and raising the cash ratio on Tuesdays above its level on other days, a bank can give in its Monthly Statement a misleading picture of its position.

How can an individual bank raise its cash ratio on one day in every week? By the customary arrangement for settling Clearing House balances by transferring 'Cash at the Bank of England' from the name of one bank to that of another, an individual bank can raise its cash ratio by arranging its business in such a way that other banks are in debt to it at the Clearing House on that day. It can secure these balances due at the Clearing House by shifting assets on to the other banks. The assets are the claims which fall under the heading 'Money at Call and Short Notice'. It has lent funds, repayable on demand or at very short notice, to firms operating in the money-market. They are called upon by Bank A to repay their loans on Tuesday mornings. Somehow or other they must secure bank deposits with which to pay off Bank A. They do it by borrowing from Banks B, C, and D. Banks B, C, and D allow their Money at Call to rise while that of A falls. The use by the borrowers of the newly borrowed claims against Banks B, C, and D to pay off the claims of Bank A means that Banks B, C, and D will find that the Clearing House transactions show balances against them, while Bank A finds itself with a 'favourable' Clearing House balance. Banks B, C, and D therefore have to draw cheques in favour of Bank A on their balances with the Bank of England. The 'cash reserves' of Banks B, C, and D have gone down as their Money at Call has gone up, and in Bank A the cash reserve has gone up while Money at Call has gone down. Bank A has in fact swapped with the other banks an asset Money at Call for an asset Cash at the Bank of England. Nothing has happened to change the distribution of deposit liabilities to the public. The ratio of cash to deposits—the 'cash ratio'—will have fallen in Banks B, C, and D and risen in Bank A.

To understand why Banks B, C, and D should be willing in this way to take over some of Bank B's assets, allowing their cash ratio to fall, it is necessary to go on to examine the events of the following day. Just as Tuesday is Bank A's 'making-up day' (the day for drawing up the weekly balance-sheet, the published Monthly Statement

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being an average of the four or five weekly balance-sheets), so Wednesday is Bank B's making-up day. On Wednesday Banks C and D remain in the same position as on Tuesday; but Bank B will be calling in short loans, and the discount houses will be enabled to pay them off by the willingness of Bank A to relend all that it had called in the day before. On Wednesday morning there is in fact a transfer from B to A of claims against the borrowing discount houses—'Money at Call and Short Notice'—and a transfer from A to B of cash at the Bank of England. The transfer of cash is effected when, as a result of the discount houses paying into Bank B cheques on Bank A, Bank B has a favourable, and Bank A an adverse balance at the Clearing House.

In the same way Thursday may be Bank C's making-up day, and the cash passes on to Bank C while Bank B's Money at Call, &c., rises again to its usual figure. And so on. The same cash in fact does duty in the weekly balance-sheets of all four banks, their making-up on different days enabling them to pass it round one to another.

The Macmillan Committee's description of the practice of window-dressing may serve as a summary of the preceding paragraphs: 'The monthly figures published by the clearing banks are not true daily averages but are averages of one selected day in each week of the month. It seems that, in order to present a better appearance, most of the banks concerned are at pains to manipulate their balances with the Bank of England on the selected day of the week so that they stand at a higher figure than usual. Moreover, each of the four biggest institutions pursuing these practices selects a different day of the week for the purpose, calling in loans from the money-market on its own selected day, but returning them next morning in time for the next big bank to call them for its making-up day. Thus a certain part of the published reserves of the clearing banks in the shape of deposits with the Bank of

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England is like a stage army, the same liquid resources doing duty four times over in the course of each week.'[1]

The cash ratio shown by the Monthly Statements is therefore a fictitious ratio. Were the amount of window-dressing constant its existence would be of little significance and we should not have devoted so much attention to it. But a comparison of certain figures published in the Bank of England's Statistical Summary with the Monthly Statements of the clearing banks has shown that the amount of window-dressing is subject to significant changes.[2] Over the period 1925–35 the banks appear to have increased the amount of window-dressing when their cash ratios have been falling and reduced the amount of window-dressing when their cash ratios have been rising. The practice of window-dressing has thus been used to conceal the extent of the variations in the true cash ratio. The published cash ratio has varied from about 10 per cent. to just under 12 per cent., but the true cash ratio has varied by an appreciably wider margin. The banks have not varied the cash ratio in this concealed way in order, on the whole, to vary enormously the amount of earning assets and deposit liabilities. Rather they have allowed these largely concealed variations in the true cash ratio to occur when the supply of cash has varied. This practice of window-dressing *to a varying extent* might be a source of difficulty to the central bank if, when it deliberately reduced or increased the cash basis, the only response of the commercial banks was a change in the

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[1] Report of the Committee on Finance and Industry (Cmd. 3897 of 1931), p. 156. The window-dressing for the half-yearly balance-sheets is not of such importance.

[2] On this point I am indebted to the work of Mr. R. M. Goodwin, of St. John's College, Oxford, whose unpublished thesis submitted for the B.Litt. degree includes some most interesting analyses of these statistics. It has been represented to me that the conclusions are partly due to illusory features of the weekly Bank Returns. But that these latter should persistently misrepresent the situation I find almost incredible. A central bank policy of publishing illusory statistics without any comment appears completely unjustifiable.

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amount of window-dressing. Experience of the last ten years suggests, however, that the commercial banks would respond eventually by reducing deposits, the variation in window-dressing being responsible then only for a time-lag between the action of the central bank and the change in the lending policies of the commercial banks.[1]

We pass now to the working of the second liquidity rule of the English commercial banks. We have seen how an individual bank can easily add to its cash reserves by transferring earning assets to other banks, and how the Money at Call and at Short Notice and the Bills Discounted are generally regarded as those most easily shiftable—and therefore as the most 'liquid' of the earning assets.[2] The second liquidity rule is that the liquid earning assets, together with the cash, should normally equal about 30 per cent. of deposits, a marked rise above 30 per cent. being held to justify some shortage of cash below 9 per cent., and a marked fall below 30 per cent. being held to necessitate a rise in the cash ratio above 9 per cent. The commercial banks are obviously not able to choose the amount of cash they hold, so that the subjection of their total assets and therefore their total deposits to a cash ratio rule is easy to understand. But earning assets, it might be supposed, being under the direct control of the commercial banks themselves, the 21 per cent. of liquid assets could be obtained to suit whatever total resources the banks thought appropriate to their given cash reserves. The significance of the second liquidity rule, its influence over the total volume of deposits, depends on the varying availability of the earning liquid assets—Money at Call and Bills Discounted. For good reasons banks are unwilling to alter appreciably their canons of security, and a great change in the supply of bills of exchange relatively to bank cash and to the supply of other attractive earning assets may upset the banks' distribution of assets. Suppose the supply of bills to be very restricted. Then there will be little outlet for Money at Call and Short Notice (since such funds are lent largely on the security of bills) and the banks will have difficulty in maintaining the item Bills Discounted. The earning liquid assets may then fall markedly below 21 per cent., and the banks, in accordance with their second liquidity rule, will prefer to allow the cash ratio to rise rather than expand the 'non-liquid' earning assets any more. A fairly clear instance of this occurred in 1933–4, when a shortage of bills was accompanied by a rise in the cash ratio, so that the volume of deposits declined despite the maintenance of bank cash.[1]

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[1] Chapter V includes some further discussion of the effects of window-dressing.

[2] Most of the Investments, being readily saleable through the Stock Exchange, are liquid in this sense of being readily transferable; but unlike the two assets mentioned above long-term securities may be transferable *only at appreciable capital loss*—which banks cannot afford to incur. On the meaning of liquidity see further remarks in Chapter IX.

The opposite might occur if the supply of bills were unusually great relatively to bank cash and the availability of other attractive outlets for bank funds. In that case banks would take up an unusual amount of bills and lend more Money at Call and Short Notice to dealers holding bills on their own account. They would be prepared to do this even to the extent of creating deposits out of the usual proportion to their cash reserves, the cash ratio being allowed to run down while *total* liquid assets rose above the normal 30 per cent.

The only other consideration which is likely to influence the relation between the cash basis and the total volume of deposits, in the English system, is the availability of attractive earning assets generally. If, for example, the supply of bills and the demand for bank Advances are both limited by the state of trade or by other factors not subject to any direct control by the banks, and the banks are unwilling to lower their canons of security, an expansion in the cash basis can only be reflected in the volume of deposits if the banks are prepared to expand their Investments. Under any but the most extraordinary circumstances they are not likely to hesitate about adding small amounts to their Investments. But if the cash expansion is large and the banks fear that the prices of gilt-edged securities may fall before long, they will, being profit-seeking institutions, be unwilling to enlarge their stake in a risky market. It will pay them to hold an unnecessary amount of the non-earning asset cash rather than acquire 'earning' assets the yield of which may well be lost two or three times over by a fall in the capital value of the securities bought. On the other hand, if those very profitable assets 'Advances' can be extended greatly, thanks to expanding trade, the banks may in the interests of profits be prepared to expand their earning assets while cash has not expanded at all—thus lowering the cash ratio. This course is especially likely to be followed if the banks can, by window-dressing, conceal part or all of the fall in their cash ratios. There is some evidence for the view that this was occurring in England between 1925 and 1929.[1] Variations in the availability of attractive earning assets have certainly been responsible for great changes in the cash ratios of American commercial banks in recent years.[2]

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[1] This liquidity rule is likely to influence the volume of deposits less sharply where the banks do not compete so imperfectly with each other as they do in England. The influence of semi-monopolistic banks over rates in a money-market, in which each of them is so important, leads to a relatively sharp decline in their holdings of liquid earning assets when the supply available is unusually restricted. Had the banks in 1934 been more careless of their effect on money-market rates, they could have secured somewhat more of liquid earning assets than they did.

In America attention has been given to this possible check to commercial bank credit expansion from another aspect. In taking up more earning assets a bank is increasing the risks borne by its depositors, risks against which the share capital of the bank provides a cushion protecting depositors. A cautious bank may therefore pay some regard to the proportion which its total earning assets (and therefore indirectly its liabilities) bear to its capital. It will be the more regardful of this point the more sceptical it is of the future value of assets available to it. Expansion of cash will not necessarily lead to tenfold expansion of earning assets if the proportion of deposits to capital is already high. But banking literature of the last hundred years suggests that bankers' ideas on this matter are apt to be very elastic, and this check to credit expansion is probably generally of slight account. But in America in the last few years it has been given point by the attitude of the Federal Deposit Insurance Corporation, which stated in its report for 1936 that it had adopted the principle 'in admitting banks to insurance and in rebuilding capital structures of banks, that no bank should be operated without a net sound capital equal to at least 10 per cent. of its deposits'.[1]

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[1] The evidence is given in the thesis of Mr. Goodwin mentioned above.

[2] Further discussion appears in Chapter IX.

In the United States and in many other countries the cash ratio is subject to legal regulation, in that the commercial banks (or most of them) are obliged to maintain with the central bank deposits which bear a prescribed proportion to their own deposit liabilities to the public. As in such countries the law directs attention to the cash at the central bank only the commercial banks are likely, in general, to be influenced by these cash reserves only and not, as in English conditions, by their total cash reserves. Their deposits are likely to be dependent on their cash at the central bank in the same way as the English bank deposits are dependent on the banks' total reserves, both being subject to the qualifications of the preceding paragraphs.

In the United States the legal cash ratios are rather complicated. The present position is that all member banks must hold with the Federal Reserve Banks reserves equal to 6 per cent. of their Time Deposit liabilities to

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[1] This paragraph is based on a passage in L. D. Edie, *Easy Money*, pp. 95–100.

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the public, and 14, 20, or 26 per cent. of their Demand Deposit liabilities to the public. The 26 per cent. ratio for the latter class of Deposits applies to banks in New York City and Chicago, the 20 per cent. ratio to banks in certain other so-called reserve cities, and the 14 per cent. to all other banks. This classification of cities was historically based on the structure of the correspondent bank system. The contrast in ratios to be held against Demand Deposits and against Time Deposits respectively has been repeated in some but not all of the other countries which have followed the American system of imposing legal restriction. In England no such contrast is recognized, the customary 9 per cent. applying as a flat ratio to all deposits. The distinction for reserve purposes between Demand and Time Deposits exists because these rules were originally applied in order to protect the public against banking illiquidity. It is obviously desirable, if the ratios are to be governed by possible public demands, to hold a higher cash reserve against deposits payable on demand than against those payable only after a month's notice. But the tendency nowadays is to regulate cash ratios not in the interests of banking liquidity but in the interests of central bank control over aggregate bank deposits. For this purpose a simple flat ratio is probably advantageous and, as we shall see below, a contrast between the Time and Demand Deposits' ratios may be actually a source of difficulty for the central bank.

Subject then to the secondary considerations of the distribution of assets, &c., the commercial banks, in striving after the maximum profit consistent with safety and observance of law and custom, may be expected to regulate their operations mainly by the size of their cash reserves. The size of those cash reserves we shall find to be under the control of the central bank, and to the field of central banking we must proceed after a chapter on the Discount Market. Later we shall revert, in Chapters IX and X, to some further problems of commercial banking.

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CHAPTER III

THE DISCOUNT MARKET

I. *The Bill of Exchange*

A CHEQUE of the ordinary kind is technically a Bill of Exchange payable at sight; but the layman can most readily grasp the nature of the Bill of Exchange if he considers it as a post-dated cheque. If I incur a debt to John Brown but am unable to pay on the spot, he may be willing to accept a post-dated cheque. This is in effect what happens when a creditor, accepting a cheque, promises not to present it at the bank for a few days. Then John Brown has a claim against my bank on my account and receives payment on the due date. If he should want the money earlier he must find some one who will take the cheque (after he has himself endorsed it) to hold until the due date, and the man who provides the money may deduct a small amount to compensate him for waiting till the due date.

When our post-dated cheque is called a Bill of Exchange the due date is called 'maturity'. The process of handing round the endorsed bill in exchange for ready money before maturity is called 'discounting the bill of exchange'. And the margin between the ready money paid and the face value of the bill (which is the amount payable by the debtor at maturity) is called the 'discount', and is calculated at a rate per cent. per annum on the maturity value.

Suppose that Thomas Debtor buys goods from John Creditor. Creditor wants his money now, but Debtor wants to postpone payment until he has resold the goods. They may agree to settle the transaction by Creditor 'drawing a three months' bill' on Debtor.[1] The form will be something of this kind:

London, 27th July 1937.

To Thomas Debtor,

Three months after date please pay to John Creditor or Order, the sum of One Thousand Pounds for Value received.

Signed: John Creditor.

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[1] Actually bills in the London market vary in currency from one to six

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Then Creditor is the Drawer of the bill and Debtor is the Drawee of the bill. Creditor sends the bill to Debtor who acknowledges his responsibility for payment of the thousand pounds at maturity by writing on the bill his 'Acceptance'. When the bill has been 'accepted' Debtor has for the time being closed the transaction. He simply has to be ready to pay a thousand pounds to any one who happens to own the bill three months hence.

But Creditor prefers immediate cash to a thousand pounds in three months' time. He can then take the accepted bill to some one who has money to lend on such security. But Creditor does not *borrow* on security of the bill. He *sells* the bill—parts with all his interest in it—outright. Creditor has to endorse the bill to show that he has parted with his claim. His endorsement incidentally renders him liable to meet the bill at maturity should Debtor fail to do so. When Creditor sells the bill the financier who takes it from him pays not £1,000 but, say, £990. The £10 difference represents the interest on £990 for the three months which must elapse before maturity—the rate of discount would then be quoted as 4 per cent.[1] The financier has in fact exchanged £990 now for £1,000 (due from Debtor) three months hence, the £10 is his price for doing so, and the bill is legal evidence of his claim to the £1,000.

The bill is a convenient instrument because like a share in a company or a government bond, it can change ownership conveniently during its currency. If the financier who took the bill from Creditor decided, after say a month, that he needed cash he could raise cash by *rediscounting* the bill. The bill would now represent a claim to £1,000 *two* months hence, and the spot cash price for it would (if

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months; but throughout the following pages the three months' bill has been taken as typical: the vast majority of London bills are three months' bills.

[1] The arithmetician will notice here the difference between 'true discount' and 'commercial discount'—the rate of the latter being calculated on the sum payable at maturity.

the relevant interest rate is again 4 per cent.) have risen to £993 6*s*. 8*d*. He would have to endorse the bill and would be responsible for meeting it at maturity should the other names on it fail. But, supposing all goes well, the transaction has closed so far as he is concerned and he has secured interest at 4 per cent. per annum for one month's loan of £990.

II. *The Structure of the Discount Market*[1]

The trade bill which we have been describing so far is, then, a device for securing in a convenient form, and with clearly understood legal safeguards, the financing of a transaction in goods which takes some time to complete. The importation of cotton and wheat into England are important transactions of this kind and they are financed largely by the discounting of bills. Neither exporter nor importer have to go without their money while the goods are in transit, the money for the exporter being in fact provided by the *discount market*, until the importer has had time to resell the goods. If as will generally be the case neither the exporter nor the importer is a man whose name is recognized in the discount market as a credit-worthy name it may be difficult to secure money for the bill unless some firm of repute can be induced to guarantee the bill. It is worth paying some commission to secure a good name on the bill as the ease of discounting is much increased, and the appropriate rate of discount is lower. The specialist firms called the *Accepting Houses* make it their business to provide these guarantees for a commission. They maintain agencies in important trading centres abroad and make it their business to know the credit standing of various traders. Having ascertained that an American importer is credit-worthy the Accepting House is willing to open an *Acceptance Credit* for him.

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[1] For a detailed description of the London Discount Market see Truptil, *British Banks and the Money Market*. There is an excellent *History of the London Discount Market* by W. T. C. King.

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The size of the acceptance credit will depend on the size of the importer's transactions and the Accepting House's estimate of his ultimate resources. Suppose the credit to amount to £20,000. Then the American importer buys goods in England from an English merchant, the latter agreeing to take as payment a three months' bill for £15,000. The price of the goods may be called £15,000, but it is understood that three months' credit is given. Then the English merchant is advised by the American that the latter has a credit with such-and-such an Accepting House. The English merchant then draws a bill, not on the American importer but on the Accepting House. The Accepting House has made itself liable to meet bills on the American's account up to the £20,000 limit. The bill is then sent to the Accepting House in London, which acknowledges its obligation by 'accepting' it. The bill can then be discounted readily by the English merchant (or his agent). It has a first-class British name on it and will be discounted at one of the lowest rates in the market. The Accepting House has its own arrangements with the American importer, whereby the latter promises to meet the debts which he incurs. The bill itself is payable on maturity by the Accepting House. For the use of its name in this way the Accepting House charges a commission, and its receipts from commissions enable it to maintain in various commercial centres the credit intelligence service which is essential to the avoidance of bad debts. The Accepting House must be recognized in London as having ample resources of its own for meeting all the obligations it incurs—otherwise its name on a bill loses value and the advantage of drawing bills on the Accepting House disappears.

Sometimes the arrangement between the debtor who has to pay ultimately and the Accepting House is made indirectly through the debtor's bank. If the debtor is, say, an Argentine importer, he can induce his own bank in the Argentine to secure an acceptance credit for him in

London, enabling him to tell his creditor to draw the bill on a great London Accepting House. The Argentine bank makes itself responsible for the debt to the Accepting House and makes its own arrangement with the final debtor, the Argentine importer. This class of acceptance credit is called a 'Reimbursement Credit'. The Accepting Houses and banks grant these reimbursement credits at particularly low rates (frequently ½ per cent.) as all they have to do is to satisfy themselves about the soundness of the Argentine bank—a very much simpler matter than looking into the credit-worthiness of an individual Argentine importer. The Argentine bank will itself naturally make some charge to the Argentine importer; but the division of labour in seeking credit information, between the London Accepting House and the Argentine bank, may well lead to some reduction in the total cost.

The great London Accepting Houses are able to combine these functions with a number of other financial transactions of one kind and another—the raising in London of long-term loans for foreign governments, for example. Frequently they are referred to as the 'Merchant Bankers'. Some of their names are among the best-known financial names in the whole world—Barings, Rothschilds, Kleinworts, Erlangers, Lazards, &c. The great joint-stock banks also have an extensive Acceptance business, which can be worked in easily with their ordinary banking business in the great commercial centres.

Once it has been accepted the bill is ready for discounting in the London discount market. The discount market consists of a number of firms which can be divided into three classes—the great Discount companies (three joint-stock companies), the bill-brokers, and the running-brokers. The last, the 'running-brokers', are pure agents doing no discounting on their own account. They act for commission, bringing together buyers and sellers of bills and borrowers and lenders of money. The actual discounting of the bill will be done by a Discount House—

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either a discount company or a bill-broker. These two types of firm do not differ fundamentally in their business. Both borrow money from the banks and other institutions with money to lend on short-term and use that money to buy and hold bills of exchange. They differ in that the Discount companies obtain some of their funds by accepting, on ordinary bank deposit lines, funds from the public. They pay on these deposits a rate of interest slightly higher than that offered by the London banks, but they do not offer the same facilities, of course, and compete in fact only for large deposits. The bill-brokers depend entirely on what they can borrow from various banks. Discount Companies and bill-brokers are alike in using some capital of their own, but the Discount Companies have bigger capital relatively to their total transactions. Discount Companies and bill-brokers alike have been inclined during the lean nineteen-thirties to venture outside the business of discounting bills in order to add to their meagre profits.

The money which the creditor wants in exchange for his bill is thus provided by a discount house which has, on the whole, found it by borrowing from a bank. The bank has put a bank deposit (a claim against itself) at the disposal of the bill-broker, and the bill-broker puts it at the disposal of the firm which has brought the bill along. These loans from the banks to the discount market are the most important part[1] of the Money at Call and at Short Notice which appears in the banks' balance-sheets. We can now see how the bill-brokers and Discount companies manage to live. They borrow from the banks at call and short notice at very low rates of interest in order to discount bills at rates which are in general rather higher. When a bill-broker takes up a three months' bill he does not secure the necessary money by borrowing for a term of three months. He finances his holding of the bill by borrowing from day to day, from week to week, and from fortnight to fortnight. The trouble of getting loans renewed, the risks of not having them renewed, and so forth, are compensated by the low rate of interest at which the banks will make these short loans. After a bill-broker has taken up a three months' bill at say 3 per cent., relying on securing his short loans from the banks at 2–2½ per cent., the cash reserve position of the banks may change, forcing the banks to curtail their short loans, rates on which may rise sharply—perhaps to 4, 5, or 6 per cent. If this goes on for long the bill-broker, far from having made a profit, will have incurred a loss as a result of having discounted that particular bill. He must, therefore, when discounting a bill make up his mind about the prospects of call and short money rates throughout the currency of the bill. The market rate of discount to-day for three months' bills will be dependent not only on call and short money rates to-day but also on their prospective levels throughout the next three months.

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[1] There are sometimes included substantial loans to customers for Stock Exchange purposes; but our knowledge of the banks' classification of assets is still limited.

What, the reader asks, will happen if all the banks are calling in loans from the discount market? How will the discount market be able, at any rate of interest, however high, to secure the funds for paying off the banks? Some bills will be maturing each day, and the bill market could conceivably raise some money by not taking up fresh bills as the old bills mature.[1] But this may not be sufficient to provide the requisite amounts. Then what happens is that the bill market goes to the Bank of England which traditionally will always help the bill market, *at a price*. It will either rediscount bills for the market, taking the bills outright in exchange for credits in its own books, or it will make temporary advances (for a week or a fortnight), the bills being merely left with the Bank of England as security. But the rate at which the bills will be rediscounted at the Bank of England will be the official Bank Rate, which is generally rather higher than market rate, and the Advances Rate is ½ per cent. higher still.[1] Going to the Bank of England for funds, although an absolutely reliable resource for the Discount Houses and bill-brokers is therefore an expensive business; and going to the Bank or the fear of going to the Bank will accordingly make the market rates rise. Thus although the discount market finances itself by very short loans it can always rely on securing adequate funds somewhere or other.

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[1] It is in this way that the bill market sometimes makes the Government bear the cost of the half-yearly window-dressing by the banks. See *post*, p. 143 n.

This use of the Bank of England as a last resource is limited in a way which has important effects on the rates at which various classes of bills can be discounted on the market. Historically in order to guard itself against bad debts, the Bank of England has certain rules restricting the classes of bills of exchange which it will rediscount or which it will accept as security for advances to the discount market. Among ordinary bills of exchange such as have been described above the Bank will only countenance bills bearing at least two good British signatures, one of which must be that of a British bank (in which case the bill is called a 'Bank Bill') or that of a leading merchant house (in which case the bill is called a 'fine trade bill'). The fact that a discount house can go to the Bank of England in the last resort only with bills of exchange which fall into these two classes[2] makes the discount market prefer these two classes. That preference is shown in the lower rate of discount at which these bills can be discounted. As a bill accepted by a great Accepting House or British bank would ordinarily fall automatically in these classes of 'eligible bills' (bills eligible for rediscount at the Bank of England) the value of the Accepting House's signature is patent.

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[1] This functioning of the central bank as 'lender of last resort' is further discussed in Chapter V.

[2] It can also, of course, take Treasury Bills, a discussion of which is to be found in the next section of this chapter.

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Quite apart from the possible taking of some of their bills to the Bank of England discount houses do not ordinarily hold all their bills to maturity. The joint-stock banks generally hold large amounts of bills and these are frequently obtained through the discount market. The banks like, for the sake of liquidity, to have their bills arranged in order of maturity, a certain proportion falling due each week. They do not particularly want the trouble of acquiring a lot of small bills, but prefer buying large 'parcels' of bills from the market, the parcels being of amounts and maturities which the banks happen to want at the moment. A bill-broker having a parcel of the amount and maturity which a bank is wanting will not borrow from the bank (leaving the parcel as security) but will take the bills to the bank for rediscount. The bill-broker parts with the bills for ever and takes 'money down' in exchange. He has sold the bills to the bank. The bill-broker having endorsed the bills remains in law liable to meet the bills at maturity should the acceptors, the drawers, and any previous holders default. Otherwise his interest in the bill ceases. The rate of discount at which the bank takes the parcel will, *ceteris paribus*, be less than the average rate at which the bill-broker discounted the various bills in the parcel. The margin between the two rates may be regarded as a commission paid by the bank to the bill-broker for having collected just the classes and maturities of bills which the bank was wanting to balance its portfolio, and in some slight degree, for the bill-broker's name having been added to the list of people from whom the maturity value of the bill can, if necessary, be claimed. From these margins between the rates at which they discount bills originally and the rates at which they hand them over to the banks the bill-brokers derive an appreciable part of their income. But when we are discussing the present position and future prospects of the discount market we must remember that this source of income has depended on

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the bills coming into the market being infinitely varied in credit-standing, in maturity, and in maturity value.

It should be added that, by firmly established custom, an English joint-stock bank never parts with a bill which it has once taken. Once a bill of exchange finds its way into a joint-stock bank it rests there until maturity. Unless the custom existed the banks might not be so willing to leave to the bill-brokers the sifting out of attractive maturities. The banks also customarily much prefer to hold bills with not more than about two months to run to maturity. An important function of the discount houses has therefore been to hold bills for the first month or so of their currency, selling them to the great joint-stock banks as, with lapse of time, they become shorter-dated paper. There being a more lively demand for shorter-dated paper, discount rates are normally lower for say two months' bills than for three months' bills. This difference of rates allows the discount houses to earn on the paper they hold rates which are above those prevailing for three months' bills. To give an extreme case,[1] suppose the three months' rate is 5 per cent. and the two months' rate is 3 per cent. The discount house pays at the outset £987 10*s.* for a three months' bill (£12 10*s.* = $1\frac{1}{4}$ per cent. on £1,000 = 5 per cent. per annum). At the end of a month it resells the bill to a bank at 3 per cent.—i.e. at £995 (3 per cent. per annum = $\frac{1}{2}$ per cent. for the two months; $\frac{1}{2}$ per cent. of £1,000 = £5). Then the discount house has earned £7 10*s.* on a loan of £987 10*s.* for one month, which is at a rate of about 9 per cent. per annum—which would probably leave it a good margin over the rate at which it took short loans from the banks. This profit will be increased if rates have moved downwards during the first month, and decreased if rates have moved upwards. The discount houses thus make their incomes by borrowing very short money to hold bills which yield somewhat higher rates, by sorting and guaranteeing bills to meet the banks' detailed requirements, and by holding bills during their least liquid period (the first month or so). These profits are temporarily increased by falling rates and temporarily decreased by rising rates. We shall have occasion to recall these sources of discount houses' income when we are discussing the future of the discount market.

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[1] These figures are extremely simplified in order to ease the reader's arithmetic. It should perhaps be emphasized that the discount houses actually make their living out of very narrow margins.

III. The Treasury Bill and the Present Position of the Discount Market

The commercial bill which we have been discussing so far is a device for raising money on goods during their transit from one place to another. Such a device could hardly be well-established without people realizing that a bill might be used for the borrowing of money without any goods being in transit at all. Such bills are called 'finance bills', and they vary in quality from the perfectly good finance bills which in pre-war days played an important part in the mechanism of the foreign exchange market, to the semi-fraudulent paper put out by any hard-pressed debtor. The ease with which the finance bill can be exploited by needy borrowers has led to the leading houses avoiding such paper, and the change in the mechanism of the foreign exchange market has reduced the need for good finance paper, so that ordinary finance bills are not common nowadays. But something very similar to the finance bill put out by a needy borrower is not merely common—it is the main prop of the discount market. This is the Treasury Bill. The Treasury Bill is a mere promissory note of the British Government. In exchange for deposits at the Bank of England the British Government gives a written promise to pay three months later a sum of £5,000 or £10,000. The form of the Treasury Bill leaves a space for the creditor's name; but the sum is payable to 'Bearer' if no name has been

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entered, and most of the bills which the market handles are generally left as Bearer Bills. This would be unthinkable with ordinary commercial bills where the addition of each signature adds to the security. But the Treasury Bill is a promise of the British Government, and no discount house or bank signature can add to that security. The unquestionable security makes it possible for them to pass round the market as Bearer Bills without any one hesitating to take them up if he has money to lend. The advantage to the Government of this form of borrowing is that it is, on the average, cheaper than long-term borrowing. The creditor can lend his money for only three months and know exactly what sum he will then have available. For such highly 'liquid' security the lender will lend at rates generally appreciably lower than those he expects when he ties his money up for years (subject of course to the possibility of selling on the Stock Exchange, perhaps at a big capital loss). As we shall see in Chapter V the existence in the market of large amounts of Treasury Bills facilitates control by the central bank, for the Treasury Bill is an ideal security for the central bank to buy and sell. And the market itself is pleased enough to have Treasury Bills, especially when, as in the last decade, the supply of commercial paper[1] has been so scanty.

The Treasury Bills are issued partly by 'tender', partly 'through the tap'. The tap issue is to government departments which have funds in hand. These departments include, besides the ordinary departments of State, the government savings banks, the Unemployment Insurance Fund, and the other great insurance funds and the Exchange Equalization Account (which in the main holds Treasury Bills and gold, a gain of gold implying

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[1] 'Commercial paper' is here used in the London sense of any bill having its origin in a commercial transaction—in contrast to 'government paper'. In New York and therefore in Section IV of this chapter the term 'commercial paper' has another connotation.

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a reduction of Treasury Bills, and vice versa). It seems possible that the Bank of England also uses the tap method of taking up new Treasury Bills. The rate of discount at which they are issued through the tap is unknown and is irrelevant to the discount market, being purely a matter of government internal accountancy. The tender issue is offered to the discount houses, the banks, and any one else who likes to apply through either of those channels. The Government invites these firms to offer a price, to be paid on some day in the following week, for every £100 which the Government will pay to them at the Bank of England exactly three months later. If a bill-broker is willing to take Treasury Bills at say 3 per cent. per annum, he tenders on Friday for the amount he is willing to take (say £100,000) at a price £99 5*s*. per cent., specifying that he will take up the bills on say Tuesday. On Tuesday he must pay into the Government account at the Bank of England £99,250. Exactly three months after that Tuesday the Government will pay him £100,000, and he surrenders his Treasury Bills.

The tender issue is made every week, the amount offered being from £30 millions to £50 millions, according to the Treasury's week-to-week requirements. Each week of course there is an amount maturing which depends on the amount issued three months previously. If the amounts maturing and being offered are equal the market is simply offering a price for renewal (though of course the distribution of the bills in the market may change). The variations in the amount offered from week to week are partly regular and foreseen by the market—such, for instance, are the seasonal variations which depend on the concentration of tax collection and parts of Government expenditure in particular weeks of the year. Other important causes of variation are Government debt policy (whether it is converting short-term into long-term debt, for instance) and changes in the tap demand for Treasury Bills.

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Other great borrowers have learned to use the broad Treasury Bill method of borrowing cheaply in the London discount market. From time to time Dominion governments, for example, issue Treasury Bills in London, and the greater English local government authorities also have bills outstanding. The aggregate amount of these miscellaneous promissory notes is, however, quite small as compared with the volume of British Treasury Bills.

Before the War the discount market handled mainly commercial bills and the structure of the market had become peculiarly adapted to that function. But since the War and especially since 1930 the volume of ordinary bills of exchange has been much reduced. This is largely the result of the decline in international trade, which was so largely financed by discounting bills of exchange. It is also partly due to a gradual change in methods of financing the movement of goods. The method of bank advances or overdrafts overseas used to be, and still is, combined with the bill of exchange method of financing trade; but the great development in methods of arranging bank advances combined with the post-war development of the telegraphic transfer of bank deposits from one country to another has militated against the use of bills of exchange. The appearance of New York as a competitor for bills of exchange has encroached quite seriously on the amount of commercial bills available in the London market. New York has managed to attract large amounts of the cotton bills which London formerly monopolized. Development of bill markets elsewhere is bound to mean some loss of attractive business for London.

For these reasons the volume of ordinary bills outstanding in the London market has shrunk from perhaps £250 millions in 1913 to something of the order of £100 millions now. The discount market has come to depend more and more on Treasury Bills, whose volume may vary from £400 millions to £600 millions and even

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£700 millions,[1] against an insignificant pre-war figure. The discount market from being a market in commercial paper has become largely a market in Government paper.

This change has unpleasant implications for the discount houses. We have seen how one of the functions of these firms is to sort trade bills into parcels of convenient maturities and qualities and guarantee them by their own endorsement, then passing them on to the banks at a profit which recompenses them for doing so. Treasury Bills need no grading; the banks can secure the right maturities by tendering at the right time, and no endorsement of a discount house can enhance the security of British Government paper. The banks may well meet their own requirements by tendering directly for the bills, leaving the discount houses without an important source of profit. The discount houses may also suffer from Government debt policy. In the early nineteen-thirties the Government, being able to secure very good terms for long-term loans, reduced its short-term debt—the Treasury Bills especially—to an uncomfortably low level. It is true that even in 1934 there were some hundreds of millions of pounds' worth outstanding; but from the total there has to be deducted the very large amounts held by the government departments (including the Exchange Equalization Account), the Bank of England, and several foreign and Dominion Central Banks, to whom Treasury Bills form an attractive sterling reserve. All these holders want Treasury Bills at any price. The English banks and the discount houses can secure only the remainder, which became, relatively to their resources, painfully small in 1934. At that time the volume of commercial bills was also, thanks to the depression, extremely low. The result was that competition forced

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[1] Their amount is extremely variable and it is difficult to ascertain how much is available for the discount market, as not only do the Bills held by government departments (including the Exchange Equalization Account) have to be deducted, but account must also be taken of the substantial amounts held by central banks of the 'sterling bloc'.

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the rates down to extremely unprofitable levels and the incomes of the discount houses depended for a time almost exclusively on the fact that rates were falling and on their unusual holding of longer-dated Government paper.

Banks and discount houses alike have to some extent suspended competition with each other in an effort to struggle through a difficult period. The banks agree not to tender directly for Treasury Bills and have agreed to lend to bill-brokers on security of eligible paper at exceptionally low rates. The discount houses form a 'syndicate' which decides at the last minute every Friday on the rate at which they shall all tender for Treasury Bills that week. Competition from 'outside' lenders, particularly the foreign and colonial banks operating in London, has from time to time weakened the various agreements. Offers of 'outside' money at lower rates than are offered by the clearing banks in the one case and the discount houses in the other may occasionally leave those institutions with unusable money. When, for example, we read in the financial press that the 'syndicate' has largely 'missed the tender' on a Friday it means that the discount houses had agreed to tender for Treasury Bills at a rate which was underquoted by outside institutions, which offered the greater part of the amount required by the Treasury that week.

Since 1934 the position has changed somewhat. On the one hand, the overseas demand for Treasury Bills has been increased by the growing London balances of other countries, and on the other hand, discount rates have ceased to fall—have indeed risen a trifle. But these two factors adverse to the discount market have been entirely obscured by more substantial changes on the other side. The supply of commercial bills has increased with the growing value of international trade. With the passing of favourable conversion conditions the Government has found it difficult to meet its maturing liabilities and

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borrow for re-armament without obliging the government departments sometimes to prefer longer-dated paper to Treasury Bills, and also increasing the total volume of Treasury Bills. The influx of gold, by forcing[1] the Exchange Equalization Account (or indirectly the Bank of England) to part with Treasury Bills, has had the effect of increasing tender issues. So that altogether the Treasury Bills available for the market are not now nearly so scarce as they were in 1934. Looking ahead, it is scarcely probable that the Budget difficulties which are likely to beset British Governments over the next five years or so can do other than lead to maintenance or increase of the tender issues of Treasury Bills. So far as the supply of Bills is concerned the market should not be in difficulty. What may happen when the Government again finds itself able and anxious to reduce the floating debt is another story. There are good reasons for arguing that the Government must see that its policy does not squeeze the discount market out of existence, but a future Chancellor of the Exchequer might well consider himself justified in attending only to the direct concern of the tax-payer.

But adequacy of the supply of Treasury Bills does not entirely solve the problem of the future of the discount market, for there remains the problem of the distribution of functions (and income!) between the banks and the discount houses. We have seen above how the business of the latter is more favoured by commercial bills than by Treasury Bills. What is there left, in a market mainly dependent on Treasury Bills, for the discount houses to do? Treasury Bills call for no grading or arranging into convenient maturities nor is their security enhanced by the endorsements of discount houses. There would appear to be no reason why the banks should not take up all the Treasury Bills they want directly from the

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[1] Given the general conditions and the rate policy adopted at the moment by the Exchange Equalization Account.

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Treasury, squeezing the discount houses out of existence. But this suggestion misconceives the utility of the discount market in increasing the liquidity of the banks. We have seen how the banks much prefer to take bills only as they approach maturity—and more particularly after their first month has run. The more completely the banks chose to tender for bills directly the greater would be the average distance to maturity of the bills in their portfolios. They would be less 'liquid'. Accordingly, they would probably want to lend more money at call and short notice. This might conceivably be done by developing the stock market loans; but such a possibility might encounter opposition in public opinion and in the attitude of the monetary authorities. The other channel for an increase in such loans would be the bill market—and the bill market would only take such loans if the banks left them enough bills for it to be worth the while of the discount houses to keep in business. Even if, therefore, Treasury Bills remain the staple diet of the market, the market is bound to continue in existence unless the banks radically alter their ideas about liquidity. The discount market might of course shrink very much—the number of firms already has been reduced by two or three in the last decade. But given an adequate supply of Treasury Bills and no change in the ideas of the great banks there is likely to remain a sufficiently wide discount market for the English system to continue much as it is to-day. It seems probable that the realization of the dependence of the banks (working with current liquidity ideas) on leaving the discount market enough business to live on is responsible for the co-operative efforts in the City in favour of the discount market. The banks have from time to time agreed with one another not to tender directly for Treasury Bills and not to take such bills until they have passed their first month or so. Occasionally they have agreed on minimum rates at which they would buy Treasury Bills from the market. All these efforts are directed towards helping the discount market to survive the lean times through which it is passing.

A further ray of hope for the discount market lies in the possible revival of the inland bill of exchange. The bulk of the commercial paper in the market has its origin at present, and has had throughout the century, in international trade. Inland buyers and sellers have learned to finance their business by bank advances. There must be a large amount of internal trade in staple commodities which could quite easily be financed by discounting bills of exchange in the London market. The discount market itself would rejoice in such a development, as it has far more to gain from the existence of commercial bills than from an equal amount of Treasury Bills. There are obstacles to be overcome, of course—prejudice against bills, ignorance, and so forth. The joint-stock banks might well be sorry to see the demand for advances shrink, but their interests in a strong bill market are such that they should, on a long view, be prepared to facilitate the use of inland bills of exchange. Instalment purchases might also conceivably help to provide business for the discount market; but the majority of instalment purchases are spread over too long a period for instalment paper itself to be attractive to discount houses. It may, however, be held by an intermediary specialist institution such as United Dominions Trust, which could finance itself, at any rate partly, by discounting bills on itself. Developments of this kind have appeared and may go much farther.

If all these hopes for the discount market should be disappointed—if the international trade bills continue their downward trend, if the Government reduces the volume of Treasury Bills, if the inland bill remains unfashionable—is it possible to envisage a London without a discount market? I believe that it is possible. The banks would, as we have seen, be obliged to alter their ideas of liquidity and their relations with each other and with the

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Bank of England somewhat. Now that the obligations of a central bank in times of crisis are absolutely undisputed, the utility of the discount market to the joint-stock banks is largely a matter of adjusting temporary differences in inter-bank indebtedness. Now while inter-bank indebtedness, arising through the Clearing House, may be quite serious where there are many banks, on the sheer laws of chance it should not be serious when there are very few banks. Indeed I believe that most of the utility of the discount market to the joint-stock banks would disappear if the latter entirely dropped the discreditable practice of window-dressing. Inter-bank indebtedness could be adjusted along lines similar to the dealings in 'Federal Funds' in America.[1] Their liquidity would *look* less, but actually now that every one understands the responsibilities of the central bank, liquidity would be no less than it is now. I do not think such a radical change in the London system probable, but I do believe that it would not be a catastrophe for the English banking system.

From the point of view of the Government, however, I believe that the future of the discount market is more vital. As we shall see in a later chapter, the authorities have learned to work the Exchange Equalization Account with the help of the market in Treasury Bills. Although it might be possible to evolve an equally good system of working the Account without a good Treasury Bill market, there is a very strong case for maintaining the present method which, though so newly evolved, does work extremely well. The Government should therefore be willing to pamper the discount market with a large volume of bills even if it felt inclined on other grounds to reduce the Floating Debt.[2] If all other hopes for the

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[1] Member banks short of reserve funds acquire from those with surplus reserves immediate deposits at the Federal Reserve Banks, returning them a day or so later. The process is essentially one of exchanging 'cash to-day' for 'cash to-morrow'.

[2] The opposite course (that of reducing the Floating Debt, despite

London discount market fail, the Government should, I feel, be prepared to be the strength and stay of as wide a market as can be supported on a diet of Treasury Bills.

IV. *The New York Money Market*[1]

The structure of the London money market is unique. Nowhere else in the world is there such a well-developed market in short-term funds—money available for periods of a few days, weeks, or months. The leading Continental centres—Paris, Berlin, Amsterdam, &c.—have some institutions and credit instruments like those of London and have more or less developed markets for short-term funds. The biggest market for short-term funds outside London is, however, that of New York, and the complexion of its business is so different from that of London that it merits some particular attention.

To New York flow surplus funds from banks all over the country—through the correspondent bank system of country banks depositing funds with town banks, and through the country banks using the great New York banks as their agents for securing short-term outlets in New York. There are in New York four short-term assets which can be acquired by a bank with surplus cash: 1. Loans to the Stock Exchange; 2. Commercial paper; 3. Treasury Certificates; and 4. Bills of Exchange.

The Treasury Certificate corresponds to the English Treasury Bill, and the amount and currency (term) of Treasury Certificates depends entirely of course on the Federal Treasury's operations. Loans to the Stock Exchange and Bills of Exchange have also their counterparts in London. To their relative importance we shall return presently. 'Commercial paper,' on the other hand, is quite peculiar to the United States. If an American

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possible cramping of the market) was supported by Lord Bradbury in his Memorandum of Dissent to the Macmillan Report; but that was before the establishment of the Exchange Equalization Account.

[1] The uninitiated may advantageously leave this section unread until Chapters IV and V have been read.

business concern wants to borrow temporarily it can, if its standing is fairly good, place ‘commercial paper’ in New York. This commercial paper constitutes a claim, to such and such an amount, on the general assets of the firm. Whereas a bill of exchange is generally the outcome of a particular transaction in say primary commodities, the value of which covers the amount of the bill more or less precisely, the commercial paper is secured by a lien on the general assets of the company, just as debenture stock is. The nearest equivalent in England is in fact the ‘Short Term Notes’ which are occasionally issued by very large companies wanting more capital but unwilling to pay the interest demanded at the moment on long-term debentures. But the commercial paper in New York has a market in only a very limited sense—it can be placed with any bank which is satisfied with the security, but once placed it does not come into the market again. Commercial paper is, by convention, held until maturity by the original purchasing bank. It is not ordinarily rediscountable at the Federal Reserve Bank. It is practically identical in liquidity with the ordinary English bank advance, the chief difference being that the bank advance is far more elastic in amount and is dependent on a banker-and-customer relation between lender and borrower. Commercial paper may be placed by a well-known American corporation with a bank of which it has never heard.

By far the most important opening for short-term funds in New York is in loans to the stock market. In England similar loans have been growing for some years now; but their importance in New York makes the English stock market loans appear quite trivial. The main reason for the difference lies in the Wall Street system of settling all transactions every day, whereas in London only transactions in the unspeculative gilt-edged market are settled daily, the rest of the markets having fortnightly (exceptionally three-weekly) settlements. Speculators who have bought in the hope of rising prices (bulls) have therefore to borrow money continuously in New York, whereas in London only the fortnightly settlement days have to be overcome. Bull speculation in Wall Street is accordingly largely dependent on loans to stock-brokers from the New York banks, acting either on their own account or as agents for out-of-town banks. The loans are either at call or short notice. A single bank can easily turn a loan to the stock market into cash by calling it in; but a general calling-in of stock market loans is bound to produce a crisis in Wall Street, for the Federal Reserve System (the central bank) will not take over stock market loans.[1]

The ease with which call loans can ordinarily be obtained in Wall Street has been often pointed out as a stimulus to unhealthy speculation in the stock market. When the Federal Reserve System was established just before the war this argument was used to support the establishment of a market in bills of exchange. Since 1914 American banks have been able and willing to do acceptance business. There exist no specialist acceptance houses like those in London, the accepting being done entirely by the commercial banks. 'Bank acceptances', as the bills of exchange are frequently called, enjoy quite a good market, which has been encouraged by the fact that they are rediscountable at the Federal Reserve Banks. The volume of them in the market is far below the amount of stock market loans, but is comparable to the volume of commercial bills in the London discount market. The bills in New York are predominantly foreign trade bills, as in London, the trades in raw cotton and sugar being particularly important in supplying bills.

There are no discount houses of the London kind, though there are bill dealers comparable, in some degree, to the running-brokers of London. Consequently the market for call money is restricted to the stock exchange.

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[1] The last statement is not strictly true now (October 1937).

The contact between the central bank and the commercial banks must accordingly be direct. If the commercial banks want more cash they must themselves go to the central bank—either to rediscount bank acceptances, or to borrow. In London, when the commercial banks want cash they call in loans from the discount market and the discount houses have to go to the central bank.

During the last twenty years the London and New York money-markets have in many ways been growing more and more like each other. In London, where previously the commercial bill of exchange was the staple paper of the market, the short loan to the Stock Exchange has been becoming more common. In New York, where previously the loan to the Stock Exchange was all-important, the bill of exchange now fills an appreciable part of the market. If the adverse tendencies discussed above continue to restrict the London discount market we can expect the London market to approach the New York market much more nearly. Conceivably, London could become like New York in having few specialist houses (such as accepting houses and discount houses), in developing direct contact between commercial banks and the central bank, and in the loan to the stock market being far more important than the bill of exchange. Against this last possibility there is of course in both centres fairly strong public and authoritative opinion, and the most probable approach to similarity between New York and London may well be in a decline in New York in the size of loans to the stock market.

Just as the bill market in New York was established with the primary intention of aiding the working of the new central banking system, so the proposals for central banks in other countries—particularly the British Dominions—have frequently been associated with suggestions for the development of bill markets in their centres. As we shall see in later chapters, central banking technique does, to a great extent, depend upon the existence of

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a good money market. It is, indeed, sometimes argued that a central bank is useless where there is no short-term money market. But such markets remain extremely rare. In Canada almost the only outlet for short money is in loans to the Stock Exchange. In Australia there have been limited attempts to develop a market in Treasury Bills, but without real success. In South Africa attempts to popularize the bill of exchange by the central bank quoting very low rates has failed. In India the existence of a predominantly unit banking system leaves more scope for the inland bill of exchange, and there are quite good markets in the main centres (Bombay being the most important). But much more will have to be done before the markets are perfect. And it must be remembered that any development of bill markets in other countries is bound sooner or later to mean some further loss of attractive business for the London market—as has happened with the rise of the New York market. There is in the world a limited amount only of business which can be conveniently financed by the drawing of bills of exchange. Too strenuous efforts to promote bill markets in other centres, in order to provide the traditional operating theatres for new central banks, might have the effect of destroying the archtype in London. That, however, is looking rather far ahead. For the moment we can take the existing structure as given and proceed to the subject of Central Banking.

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CHAPTER IV

CENTRAL BANKING—CONSTITUTIONAL QUESTIONS

I. *General Considerations*

THE business of a central bank, as distinguished from a commercial bank, is to control the commercial banks in such a way as to promote the general monetary policy of the State. There are three fundamental points implicit in this: first, a central bank does not, as a commercial bank does, exist to make the maximum profits for its owners; second, it must have some means of controlling the commercial banks; and third, it is subordinate to the State. The technique of controlling the commercial banks will be examined in the next chapter. In this chapter we shall confine ourselves to the constitutional questions of the nature of a central bank's subordination to the State and the related question of the disposal of any profits and meeting of any losses which it may incur in the course of its business.

The subordination of a central bank to the State is based not only on the general subjection of its directors as citizens to whatever laws the State chooses to impose. It is based also on the tradition firmly rooted in all countries, democratic and despotic alike, that the State must impose some laws regulating the means by which its citizens shall discharge their debts. When the State merely decrees that debts are finally dischargeable only in monetary units called pounds sterling and that a pound sterling is a certain weight of silver (or gold) it is imposing a fundamental monetary law to which any banking business must conform. The State's regulation of monetary affairs may be as elementary as this, or it may go into much more detail. A common position in the last hundred years has been for the State to say that certain forms of money are legal tender and that such money is convertible into gold, and

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gold into money, at a fixed rate. In that case it is the duty of the central bank to regulate the banking system in such a way that legal tender money *is* always convertible into gold, and gold into money, at the legal rate; and to perform that duty in the way most conducive to the general welfare of the community. Or the State may say that the central bank must subordinate all other aims to providing the Government with such supplies of money as are needed to finance Government activities: then the central bank has no choice—it must finance the Government in the best way it knows.

Much has been made since 1920 of the necessity of central banks being 'independent'. But it cannot be too strongly emphasized that this use of the word 'independent' may mislead people about the position of a central bank. The authority of the State over the central bank is always necessarily absolute. All that is open to question is the extent to which the sovereign body shall detail its commands to the central bank—for the monetary laws are such commands. This extent of governmental regulation of the central bank does vary very much. Sometimes the sovereign body of the State contents itself with prescribing equality between the monetary unit and a certain weight of gold and leaves all the rest to the central bank—perhaps even being prepared to 'rubber-stamp' modifications of the primary monetary law at the instance of the central bank. Such was more or less the position in pre-war Britain, and it might even be described as the traditional view of the proper relations between the central bank and the State. The opposite extreme occurs when the central bank is reduced to a mere engine for facilitating the financing of State services. Then the central bank 'rubber-stamps' the everyday decisions of the Government. This rarely occurs except when the financial position of the State is quite desperate. Examples are provided by several Central European countries just after the war, and it was as a reaction against the behaviour of their central banks

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at that time that the 'independence' of central banks became a canon of orthodoxy. All new central bank charters for about ten years after 1922 reflected this reaction; but more recently there has been spreading a realization that the State has, and must be prepared to assert, ultimate control of the actions of its central bank. How far this tendency could go without the central banks becoming the mere tools of improvident public finance is a matter of opinion.

The question of ownership of a central bank is naturally associated with that of control. State control points to State ownership of one kind or another. Where, in chartering the central bank, the legislature has designed to maximize the independence of the central bank, ownership by the general public or by the commercial banks has generally been prescribed. Where, on the other hand, the legislature has decided that the central bank's subordination to the State is to be emphasized ownership by the State is more common. But in no case is private ownership so absolute as to have unlimited disposal of the profits—there are always provisions for the State sharing in the profits, and it has likewise been recognized in practice that the State should bear part of any uncovered losses. Central bank constitutions vary very much in these important matters of ownership and direction—it is impossible to describe a single type as a standard. We shall therefore discuss some of the more significant cases country by country.[1] Variations from one case to another are by no means to be interpreted as necessarily reflecting national differences of view about central banking: they reflect rather the prevailing world fashions about central banking at the various times at which the particular central banks happen to have been chartered or re-chartered. Of course, if at any time a central bank's constitution is quite out of keeping with

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[1] The discussion below of the constitutions of particular central banks is not intended to be exhaustive. For further detail the reader should refer to Kisch and Elkin, *Central Banks*.

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the fashionable view, the bank may be re-chartered—as has happened in this decade in the United States and many other countries. Or the power of the State to re-charter may lead to the written constitution being superseded by unwritten conventions more in keeping with prevailing ideas. Such has been the course of events in England. Let us turn then to the general position in the more significant cases.

II. *The Bank of England*

The central bank in this country is the Bank of England.[1] The Bank of England is a joint-stock company established by Act of Parliament, as it dates back to the time when there was no general joint-stock company law. The subscribed capital, now amounting to about £14 millions, was provided from time to time by public subscription. Any one can become a stockholder[2] by the ordinary process of buying stock through the Stock Exchange. The affairs of the Bank are directed by a Court consisting of a Governor, a Deputy-Governor, and twenty-four Directors, all elected nominally by the stockholders' meeting.[3] All are nominally elected for one year only but may be re-elected, and are in fact re-elected indefinitely, as long as they choose to remain in office.[1] In pre-war days it was conventional to re-elect the Governor and Deputy-Governor for one year only, the Deputy-Governor at the conclusion of his two years (one year following original election, the second year after his only re-election) becoming Governor, which he then remained for two years.[2] But during the war the Governor remained in office for five years; one more Governor served for two years, then Mr. Montagu Norman has been re-elected year after year since 1920. Though chosen nominally by the stockholders new Directors are in fact co-opted by the existing Court. In pre-war days it was conventional for the choice to be restricted to the younger partners of a limited class of City financial houses; but it is apparent that the Bank now feels itself free to choose whomsoever it pleases, not even restricting itself to the shores of this country. The fees for ordinary directors are a mere £500 a year[3] and the duties are onerous;[4] but such is the prestige attached to a Bank of England directorship that the Bank is able to choose wherever it likes, and has in fact in the last few years secured distinguished names from a wide field. I very much doubt whether any other system of selecting Directors would give a better list.[5]

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[1] The Bank of England is the central bank not only of England but of the entire United Kingdom of Great Britain and Northern Ireland. Its control is most direct over the English banks, but the predominance of the English banks in the whole, and the indirect control over the Scottish and Ulster banks make it reasonable to think simply of the Bank of England as the central bank of England. It should be emphasized that this *is* a simplification. How significant a simplification we do not know precisely. I believe that a study of the relations between the English and other banks would be of great interest from the point of view of international monetary problems, could the facts be established. But this last is impossible.

[2] The capital is 'stock'—i.e. it is freely divisible into any odd amounts, in contrast to 'shares', which are indivisible units. The difference is formal only.

[3] The precise regulation of this voting need not concern us as *de facto* it is purely formal business. If stockholders attempted to exercise their legal rights in full they could soon be thwarted by the action of the legislature.

On the choice of the Governor it is difficult to speak with any certainty as there is no established convention. The present Governor, Mr. Montagu Norman, was elected

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[1] Except that there is apparently an agreed age for retirement.

[2] It is often said (e.g. Truptil, *British Banks and the Money Market*, p. 35) that in pre-war days the Governors were elected for two years and not re-elected. This was not so. They were elected for one year and then re-elected for a second year.

[3] The Bank has power to, and does, employ one or two among its younger directors as full-time directors, paying them an appropriately high stipend.

[4] Apart from the rather formal weekly Court ('there is panic in Lombard Street if the Court outlasts an hour') there are numerous committees and, for the junior directors at least, heavy routine duties.

[5] This does not necessarily imply that the selection system is ideal; merely that it is in fact working quite well at present.

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according to the pre-war convention of the senior director who had not passed the chair becoming, if he was willing, Deputy-Governor and then Governor. The changed conventions about the election of Directors and Deputy-Governors, Mr. Norman's very long tenure of the Chair, and other factors have combined to make adherence to that pre-war system impossible. But even of that system Mr. Norman's original election was not quite typical, for he, unlike his predecessors, had given his main attention to the Bank of England for some years before he became Deputy-Governor. Now that the election of Directors on the new system is firmly established it is likely that the next choosing of a Governor will establish a new convention which may last some time. There are various possibilities. The present Governor being a man of great power within the Bank Court may practically choose his own successor, or the Court of Directors may make the choice themselves. Or the Government of the day may force its choice on the Bank as it always has power to alter the legal position if necessary to exert its own influence. The position of Governor is one of tremendous importance for the welfare of the country especially if, as is likely, the Governor is to maintain his dominant position in the Court of Directors. A Government choice could command substantial outside support. It would of course be subject to criticism from those who emphasize the need for 'independence' of central banks; but it would be possible to meet such criticism and justify Government action. What exactly happens when the time does come to choose a new Governor will depend largely on the political situation of the moment. On the whole, the most likely event, if there have been no great legal changes, would seem to be that the Governor will be chosen by the Court of Directors, but that they will take care to make a choice which will not be distasteful to the government of the day.

But in any case the field of choice remains open. The election, on two occasions since the war, of officials of the Bank to be first Directors and then Deputy-Governors points to the possibility (in part following the precedent of Mr. Norman's election) of the most able Bank employee of his generation becoming Governor. Against this selection of a Governor from men who have been experts confined to the Bank of England from their youth up, are all the general arguments against putting the decision of enormously important matters of broad policy into the hands of a technician. Where the subject is monetary policy these arguments are, I think, substantial. Some people, indeed, would say that Mr. Norman's work provides ample evidence of their force. The man chosen must, on the other hand, obviously have a clear grasp of the technique of central banking and of the peculiarities of the financial centre, and this militates against the Government or Directors making a completely outside choice. Mr. Norman himself appears to be aware of these limitations to the field from which the great central bankers of the future can be drawn, and his efforts to secure the widest possible experience for the more able of his younger officials is perhaps one of his greatest services to his country.

Another problem to be faced is the term of office for a Governor. Even the pre-war system recognized that a year was too short a term. And pre-war experience also points to two years, the then conventional term, as too short.[1] On our sole post-war experience—that of Mr. Norman's long tenure of office—opinion is inevitably divided, but I believe that it compares favourably with our discouraging pre-war experience. But this is opinion, not irrefutable conclusion. We must retreat to the alternative line of general arguments. Against a very short term of office there are two arguments. The first is the desirability of that confidence, continuity, and knowledge which is only possible if a man holds office for some years. The second argument is that the shorter the term of office the greater is the number of Governors which must be produced by every generation. In view of the discussion of the preceding paragraph I believe that the number of potential Governors may well be too limited for us to face a short-term system with equanimity. Against allowing a man to hold office indefinitely is the great power which might be used irresponsibly and the possibility of a man clinging to office beyond the point at which he could hold it efficiently. I myself would, on a balancing of these considerations, support an indefinitely long term of office, subject to a retiring age. The fear of irresponsible action must be taken rather as an argument limiting the field from which we can choose a Governor. A thoroughly bad Governor could always, in the last resort, be removed by legislative action. The retiring age is difficult to select, as men of the type we are seeking vary so much in their ability to maintain their powers in old age. The best solution might be to fix a common retiring age such as 65, with power to extend for three years or so at a time, to the age of 75 or so, on the initiative of the Directors *and with the consent of Parliament*. But these are only suggestions. Sooner or later these problems will have to be faced.

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[1] On pre-war experience see my *Bank of England Operations 1890–1914*, where I concluded '. . . it was the hesitancy of an imperfect technique, subject sometimes to weaker and sometimes to stronger hands, but always to hands which were newly set to the plough' (p. 136).

Problems relating to the Deputy-Governorship are more easily solved. It should be understood at once that the Deputy-Governor is a person of great authority, even under the most autocratic of Governors. In pre-war days the Deputy-Governor was the Governor's apprentice; but now 'Deputy-Governor' is a much more appropriate title. Decisions of the utmost importance have been taken when the Deputy-Governor has been presiding over the Court of Directors.[1] The system, which has been established

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[1] The outstanding example was the decision to ask the Government to suspend the gold standard in September 1931. The Governor had

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since the war, of promoting to the Deputy-Governorship an outstanding official of the Bank has much to be said for it. In particular the technical knowledge and experience which such a Deputy-Governor can supply makes it possible to widen somewhat the field from which Governors can be drawn. But if this system is to continue it would be well to make it clear that the Deputy-Governor has no established claim to succeed to the Governorship. The Deputy-Governor should not. I think, be automatically ruled out of the field; but he should have no conventional right of succession. As to his tenure of office, there is no reason for limiting his term, except that the Governor and Directors must have power to secure his retirement if they are not satisfied that his capacities are maintained. He is clearly subordinate to the Governor, and the Governor might generally be trusted to see in his own interest that his subordinates are reasonably efficient.

Let us turn now to the allocation of profits. The Bank of England being a joint-stock company, the capital of which has been provided by private individuals, must clearly distribute part at least of its profits to its stockholders. But there are two peculiarities which distinguish the central bank from other joint-stock companies. First, the central bank must always appear to be rich. The smooth functioning of a central banking system depends upon there being unqualified confidence in the central bank's liabilities being covered by its assets. The central bank must, therefore, always demonstrate that it is not incurring losses, even if it has been incurring losses. Accordingly it must never pass a dividend, and there is a strong case against ever reducing the dividend. If proper performance of its functions leads to its incurring losses, either it must cover them out of secret reserves or it must be helped by the Government. The second peculiarity which distinguishes the central bank from other com-

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collapsed under the strain of the crisis week and the critical Court was presided over by Sir Ernest Harvey.

panies is that the central bank should not in the ordinary course of events appreciably increase its dividends lest it be charged with having subordinated the interest of the country to the interest of its stockholders. It must be above suspicion of having incurred losses and it must be above suspicion of having sought profits! This is a hard saying and the only satisfactory way to meet its requirements is to pay a stable dividend, manipulating secret reserves and/or adjusting its accounts with the Government to produce that result.

The Bank of England has paid a stable dividend for many years now, the last changes having been increases about the end of the war, when, in line with the general increase in interest rates and paying regard to the increase in the cost of living, the Bank decided to give its stockholders some of the benefit of its increased wealth. Analogous reasoning would have justified some small reduction in the dividend in 1931 or 1932 and, when we remember what was being said then by the Chancellor of the Exchequer and the financial authorities I am inclined to think it a pity that no change was made. But, as we have seen above, there is something to be said for *never* reducing the dividend, and perhaps the circumstances of 1931 also made it essential that the rule should be observed, even at the expense of some apparent injustice.

Contrary to an impression which prevails in some quarters, the British Government does enjoy a substantial share in the profits of the Bank of England. The arrangements for profit-sharing are based on the peculiar division of the Bank, under the Acts of 1844 and 1928, into two departments called the Issue Department and the Banking Department. For most purposes this division is meaningless—there is, for example, no division of control, no division of policy. Historically the division was simply a device for making the business of note-issue appear automatic and for segregating it completely from all 'banking' business. We shall return to the subject when we are discussing the regulation of the note-issue. But the division is relevant here in that it implies a division of the income of the bank. In the Issue Department are segregated certain of the assets of the Bank as 'cover' for the note-issue. These assets are gold and Government securities. The profits of the Issue Department are the income from these assets *minus* the expenses of printing the notes, &c. The Currency and Bank Notes Act of 1928 says that these profits shall go to the Government. Now the profits obviously depend on three things (apart from the infinitesimal expenses): the volume of government securities held, the rate of interest being earned on them, and any changes the Bank makes in the capital valuation of the assets. Now these three are the factors which are responsible for most of the variations in the Bank's total profits—so that the brunt of variations is borne by the Government. The profits of the Banking Department (nominally the profits for the stockholders) sail in smoother waters. If the rate of interest changes much, if the value of the gold in the Bank is written up or down, if the volume of securities in the Issue Department is changed (i.e. if the Fiduciary Issue is changed[1]) the Government takes the profit or bears the loss. Far be it from me to suggest that our peculiar system of central bank dichotomy is ideal or is even worthy of being copied elsewhere;[2] but it does have the incidental effect of providing a convenient way of distributing the profits and losses. After making these adjustments the profits remaining for Bank of England stockholders are probably fairly stable. Their amount is not known;[3] but circumstantial evidence suggests that they are high: the Bank of England has been able to indulge in an extraordinarily expensive rebuilding scheme.

[1] On which see below, p. 87.

[2] It has been reproduced with some complication in the new Reserve Bank of India.

[3] Actually an amount is added to a published figure called 'Rest' each year; but this is merely to provide for the stable dividend. The Bank can always conceal profits by writing down the capital value of assets.

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III. *The American and other central banks*

The central bank of the United States of America is a system of twelve connected banks called the Federal Reserve Banks. The system was founded in 1913 but the period intervening between 1913 and the present has seen such changes in ideas about central banking that the amended constitution of the system is already a mixture of anomalies based on historical forces. For a full understanding of the constitution of the system readers should look into some of the historical works:[1] here we are concerned simply to outline the system in the light of our general discussion.

The Federal Reserve System consists of twelve Federal Reserve Banks, each having one geographical section of the country as its sphere of operations. The capital of the Reserve Banks was subscribed by the 'member banks' in its region. Member banks are all those commercial banks which are obliged by law, or are induced, to attach themselves to the system, and such are the laws and the inducements that the majority of the banks, including all banks of any size, are member banks. The member banks have a shadow of control over the functioning of the System in that they elect some of the directors on the local Boards—the Boards of the individual Reserve Banks. But all fundamental central banking operations are under the control of a central body, the Board of Governors of the Federal Reserve System, and it is to the constitution of this body only that we need attend. The Board of Governors consists of seven members appointed by the President, subject to the approval of the Senate, for terms of fourteen years. Among these seven are the Chairman and Vice-Chairman, selected by the Senate and serving four-year terms. This governing body has effective control not only directly over all the most important business of the entire system but also over the appointment of the officers of the individual Reserve Banks. The American central bank is thus directed by men appointed for fairly long terms, and appointed by the Government of the country. This system is entirely new and it is far too early to make any comment on its working.

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[1] For constitutional questions the best work is H. P. Willis, *The Federal Reserve System*. On the working of the system there is an enormous literature: students should perhaps begin with Burgess, *Reserve Banks and the Money Market*; Riefler, *Money Rates and Money Markets in the U.S.*; and Hardy, *Credit Policies of the Federal Reserve System*.

It is prescribed by law that the Federal Reserve Banks shall withhold a certain part of their profits as reserve capital. Stockholders may be paid a cumulative dividend of 6 per cent. per annum. Any profits not absorbed by these two requirements pass automatically to the Federal Treasury. This system of providing for reserve capital, paying a limited dividend to shareholders, and paying any surplus to the government has become a very common arrangement in central banks established during the present century. In America the possibility of great changes in profits occurring as a result of the price of gold being changed has been obviated by the Treasury taking over the entire gold reserve.

The Bank of France is, like the Bank of England, an ordinary shareholders' bank; but the Governor and his Deputies are appointed in effect by the Government of the day and hold office during the pleasure of that Government. The shareholders have in the past had the right to elect directors (regents) and other important officers, and it is through these elections that the celebrated 'two hundred families' have maintained such great influence in the counsels of the bank. But recent changes have tended to increase the control exercised by the Government and it has recently become customary for the Governor to be changed on every important change of Government. Sometimes he has been reduced to the position of a mere civil servant. Conservative opinion on banking matters would say that this is taking political control too far; but in the recent state of economic affairs in France enhanced Government control over the central bank has certainly made for an easing of the immediate difficulties.[1]

In the general run of central banks established since the war ordinary shareholders' ownership has been common, though there are cases of the commercial banks' having been called upon to provide the capital. In either case dividends are limited by law, surplus profits going to the Government.

Where special profits or losses have been incurred by the operations of the central bank there is sometimes *ad hoc* legislation providing for the special profit or loss to benefit or be borne by the Government. Examples of this have been the legislation which provided for the Government bearing the loss suffered by the Reserve Bank of South Africa in 1931, when part of its reserve lost value on the London pound's departure from gold; and the numerous cases of Governments taking the profit when gold reserves have been 'written up' during the last few years.

Two interesting exceptions to the general rule of ordinary shareholders' or commercial banks' ownership are the Bank of Canada and the Reserve Bank of New Zealand. Both of these were originally established with share capital provided by general public subscription. But more radical Governments coming into power wished to increase political control over the central banks, and in New Zealand the entire share capital was compulsorily sold by the public to the Government. In Canada the Bank of Canada was obliged to issue new capital just exceeding the old capital to the Government, so that the Government holds a majority interest.

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[1] Some would say that this provides an excellent example of the dangers of political control—for there is always great temptation to politicians to ease immediate difficulties at the cost of raising up greater difficulties in the future.

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Systems for appointing Directors vary enormously. Sometimes the shareholders have most of the control, in which case the system tends to develop into one of the old Board co-opting new members, as in the Bank of England. Sometimes the Government has more or less power over the appointment of Directors. Five- and seven-year terms of office are common. Frequently the charter of the Central Bank prescribes that the directors shall be chosen from certain classes of people. A common provision, for example, is that so many directors shall be representative of commercial interests, so many of agricultural interests, so many of manufacturing interests, and so forth. The Federal Reserve system used to have its directors chosen largely on these lines—and vestiges of it remain in the local boards. Sometimes the directors must be selected as representative of particular geographical sections of the country. Provisions of this kind are intended of course to ensure that the central bank shall have due regard, in determining its policy, to all important interests of the country. It is sometimes argued that the system of 'representatives' of different interests must tend to exaggerate disunity within the Board, as a compromise of views is less easy when men feel that they are there to watch the interests of different bodies of people. It is significant that the recent changes in American law have whittled down the representation of particular interests in the Government of the Federal Reserve System. One of the advantages of the Bank of England's more informal method of choice is that directors may in practice be chosen from various fields without being obliged to feel that they are on the Board to represent the particular interests of the industries from which they come. All sides of a case are just as likely to be put forward; but there is more chance of compromise where the 'representation' is less formal. Occasionally it is provided that the Secretary of the Treasury shall be an *ex officio* director, though not always with a vote.

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The Governor and his Deputy are more often than not appointed by the Government for terms of seven years or so. Alternatively the election of the Governor is subject to Government approval, the system in the Reserve Bank of India being a complicated one of this kind. The distribution of power between the Governor and subordinate executive officers on the one hand and the Board of Directors on the other varies; but in general most of the power is in the hands of the Governor. This sometimes perhaps results from the Directors representing conflicting interests and so not forming a harmonious body. Often it is the effect of the enormous area from which the Directors are drawn. If some Directors come from Bombay and others from Calcutta and Madras, meetings of the Board are likely to be uncommon affairs and effective power is accordingly likely to be concentrated in the Governor and his Deputy. Given the greater influence of the Government over the appointment of the Governor than over the election of directors this tendency for real power to lie with the Governor implies a substantial measure of Government influence—subject of course to the personality of the Governor of the moment.

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These generalizations represent the position in 1937. Ideas about the control of central banks are, however, continually varying and the constitutions, written and unwritten, of central banks tend to reflect the ideas of the time. At the moment Government influence is in general fairly considerable: ten years ago it was at a minimum.

CHAPTER V

THE BUSINESS OF CENTRAL BANKS[1]

I. *Preliminary Sketch of Bank of England's Work*

THE fundamental business of the Bank of England is to act as a central bank—i.e. to control the commercial banks in such a way as to support the monetary policy directed by the State. Subject always to our remembering this fundamental business we can enumerate more specifically the main functions of the Bank of England as (1) note-issuing; (2) acting as the bankers' bank; (3) acting as the Government's banker; (4) conducting a small amount of ordinary banking business; (5) being the ultimate source of funds for the discount market. Not all these functions are essential to its position as central bank; it may even be argued that one or two of them are hindrances. A veil of secrecy surrounds many of its most interesting operations; but to some amount of publicity it is forced by the Acts of 1844 and 1928, under which is issued a weekly balance sheet, called the Bank Return. Let us look at the Bank Return and examine its various items:

BANK OF ENGLAND

Return for week ending Wednesday, July 28, 1937

Issue Department

	£		£
Notes Issued:		Government Debt .	11,015,180
In Circulation .	498,338,710	Other Government Securities . .	185,134,969
In Banking Department . . .	28,067,915	Other Securities .	3,835,808
		Amount of Fiduciary Issue . . .	200,000,000
		Gold Coin and Bullion . . .	326,406,625
	526,406,625		526,406,625

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[1] The most important discussions of central banking are to be found in Keynes, *Treatise on Money*, vol. ii (esp. chaps. xxv, xxxii, and xxxiii), and Hawtrey, *The Art of Central Banking* (esp. the title essay).

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Banking Department

		£			£
Proprietors' Capital		14,553,000	Government Securities		114,410,022
Rest		3,551,532	Other Securities:		
Public Deposits		10,528,723	Discounts and Advances	5,811,909	
Other Deposits:			Securities	20,815,435	
Bankers	104,259,233				26,627,344
Other Accounts	37,322,336	141,581,569	Notes		28,067,915
			Gold and Silver Coin		1,109,543
		170,214,824			170,214,824

Reference has already been made to the dichotomy of the Bank's accounts.[1] It does not represent any division of function but it has incidental advantages, and we are used to it. Provided that in conducting policy we agree to take no notice of the division of figures it is a perfectly harmless arrangement.

The *Note Issue* is regulated by the Currency and Bank Notes Act of 1928. To the principles which should govern the note issue we shall return later: here we are concerned only with the legal provisions and the accountancy arrangements of the Bank. Under the Act of 1928 the Bank is allowed to issue a certain amount of notes against securities held, and an indefinite amount against gold. The issue against securities is called the *Fiduciary Issue*. Its amount was in the Act fixed at £260 millions, subject to the Treasury being allowed, on application from the Bank, to raise or lower it. If the amount has been so raised above £260 millions for two years the increase becomes subject to review by Parliament. At present the Fiduciary Issue stands at £200 millions. The issue against gold is limited by the amount of gold held in the Bank's vaults, the gold being valued for this purpose at £3 17*s*. 10½*d*. per standard ounce (standard gold is eleven-twelfths fine). The entry *Gold Coin and Bullion* £326 millions odd therefore means that the Bank holds a weight of gold which, when valued at £3 17*s*. 10½*d*.

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[1] See pp. 79–80 above.

per standard ounce, is worth the £326 millions odd. Were the gold valued at the prevailing market-price the figure would be far above £500 millions. Given a Fiduciary Issue of £200 millions and gold valued (at the legal price) at £326 millions, the Bank is empowered by law to issue notes to the total value £526 millions. These notes are actually printed. £498 millions are in circulation (which includes those in the tills of the joint-stock banks) and £28 millions are lying idle in the Bank of England (in the 'Banking Department'). The notes in the Banking Department thus represent the unused portion of the Bank's maximum legal issue: the £28 millions represents the amount by which the circulation could be increased, or the gold held by the Bank reduced, without the law being broken or the Fiduciary Issue altered.

On the assets side of the Issue Department the item Gold Coin and Bullion is already explained. The other items are the securities held against the Fiduciary Issue. The first item, *Government Debt*, is a book entry that the Government has borrowed so much directly from the Bank. It dates from the earliest days of the Bank, when the latter was allowed to issue notes to a certain amount if it lent that amount to the Government. *Other Government Securities* are simply Government debts recorded in the form of bonds, &c.: while 'Other Securities' are similar bonds but of the Indian Government and other borrowers of very high credit standing.

In the *Banking Department*, *Proprietors' Capital* is the amount of capital subscribed by the stockholders of the Bank from time to time. The *Rest* is undistributed profit—reserve capital we can call it. These two items have no monetary significance. The item *Public Deposits* shows the balance of the main British Government accounts—including the Exchequer, Savings Banks, Commissioners of National Debt, and Dividend Accounts, &c. An increase in this item means that the Government is, on current and capital transactions together, having more

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money paid to it than it is paying to members of the public, and vice versa.[1] In *Other Deposits* there is included the very important sub-item *Bankers' Deposits*. This sub-item shows the balances at the Bank of England of the commercial banks. These balances are neither more nor less than book entries at the Bank of England showing that the various banks have the right to draw cheques on the Bank of England to those amounts. We have seen, in discussing commercial banking, how these balances at the Bank of England are regarded as cash reserves by the commercial banks. In so far as these latter regulate their lending policies by reference to the size of their cash reserves, the size of the sub-item Bankers' Deposits in the Bank Return is an index of the potential total supply of money. The sub-item '*Other Accounts*' shows the balances of the Bank of England's ordinary banking customers. Among these are other governments (the Indian Government Account being one of the biggest) and foreign and British Empire banks (among them several central banks). There are also the balances of a few great companies and long-established merchant houses for whom the Bank of England was acting as ordinary banker long before it was suggested that such business was not the proper field of the Bank of England. Just as some people bank with Barclays, or the Midland, so others bank with the Bank of England. We shall return later to the question of the advisability of the central bank having an ordinary banking business in addition to its central banking functions. For the moment we may remember that this sub-item is not an item of central banking business and, so long as it varies as little as it does nowadays, it is not of any monetary significance. The Bank does not accept any new private customers, and the balances of its established customers

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[1] I have for the sake of simplicity excluded the other possibilities: that it had borrowed from the Bank, or had transferred money from accounts in other banks.

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[1] I have for the sake of simplicity excluded the other possibilities: that it had borrowed from the Bank, or had transferred money from accounts in other banks.

Turning now to the assets side of the Banking Department's accounts, we find an item *Government Securities*. This shows the Bank's holding, in its Banking Department, of British Government bonds, Treasury Bills, &c. It is broadly parallel to the item Investments in the balance sheets of the commercial banks. It can be changed at any time on the initiative of the Bank, which can buy or sell such securities through the Stock Exchange, or (in the case of Treasury Bills) in the discount market, or it can deal with the British Government directly, as when it makes 'Ways and Means Advances', of the ordinary banking loan type, to the Government. The item *Other Securities* is subdivided into *Discounts and Advances* and *Securities*. These two sub-items may contain identical or practically identical assets; but there is between them the significant distinction that Discounts and Advances represents assets acquired by the Bank on eligible assets *being offered to it* in exchange for balances

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[1] They can be drawn upon for the settlement of inter-bank debts; but this causes no change in the total supply of money—cash is merely transferred from one bank to another.

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with it, while Securities represents assets acquired by the Bank when it has gone to the appropriate market and *sought* assets, giving in exchange balances with itself.

Some further explanation of the ways in which these two items may change will help us to understand much of the Bank of England's technical operations. Under Discounts and Advances there are four items, the individual magnitudes of which we do not know. Some of them are frequently zero. First there are two items arising out of the Bank's ordinary banking business. These two items are bills of exchange discounted outright for the Bank's own customers, and advances made either by overdraft or loan to the Bank's own customers. The other two items show similar transactions arising, not out of the Bank's ordinary banking business with ordinary customers, but out of its relations with the discount market. This distinction between the Bank's ordinary customers and the members of the discount market should not be understood to imply that the members of the discount market are not in any sense 'customers' of the Bank of England. The discount houses do in fact normally keep some sort of account open at the Bank of England, but the Bank's relations with them are of a significance entirely different from that of its relations with those non-financial houses and individuals who bank with the Bank of England as though it were an ordinary bank. The third and fourth items under Discounts and Advances are then bills discounted on having been brought to the Bank by discount houses wanting to rediscount them, taking balances at the Bank in exchange, and advances made to the discount houses on their having gone to the Bank of England and left with it acceptable collateral security. There are important differences between the terms on which the Bank will do discount and advances business for the discount houses and the terms it offers to its ordinary customers. With its ordinary customers the security offered, the grade and currency of bills discounted

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and so forth, are not fixed by published rules, though the Bank probably (like any other bank) has its private rules on the matter. But to all appearances each transaction is a matter for direct negotiation. The same applies to the rates of interest and discount charged to the ordinary customers. Rates charged by other institutions will guide the general level of the rates charged by the Bank, but it is free to determine the rate for each transaction by negotiation. Transactions with the discount houses, on the other hand, are governed by fixed and published rules. The bills brought for rediscount or as collateral security for advances must bear two reputable British names, of which one (the acceptor's) must be a bank or other financial house of the highest standing. Their currency to maturity is generally limited to three months, though the Bank prefers bills nearer to maturity. The rate at which bills can be rediscounted at the Bank is the celebrated *Bank Rate*, a rate fixed every Thursday by the weekly Court of Directors, or on special occasions at a special Court.[1] This Bank Rate is normally above the rate ruling in the open market. The rate charged for advances (which run usually for one week or a fortnight) is ½ per cent. above Bank Rate. Whether the discount houses rediscount bills at the Bank or obtain advances, the rate which they have to pay for the accommodation is normally higher than the rate which has been prevailing in the market—it is a 'penal rate'. Accordingly, when the discount houses do go to the Bank—'when the market is in the Bank' as the phrase goes—rates in the market tend to rise. For the discount houses having to secure money at unusually high rates will only discount new bills at rates which will compensate them for the high cost of obtaining the money with which to buy them.

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[1] I know of no evidence of the Bank nowadays charging a higher rate than the official Bank Rate, though this is nominally the 'minimum rate'. For the somewhat different pre-war position, see my *Bank of England Operations, 1890–1914*.

A rise in the item Discounts and Advances may mean only that the Bank of England has been lending rather more than usual to its private customers; but such a change is unlikely to be large. Or it may mean (indeed, if the rise is great, is sure to mean) that the market is in the Bank, i.e., that the discount houses have been forced to obtain money from the Bank of England, either by taking bills to be rediscounted or by obtaining advances, the rate in the open market in either case tending to be forced up by the penal rates charged at the Bank of England. Such a rise in Discounts and Advances is most probably the result of the commercial banks finding their cash ratios below the desired figures and calling in their loans from the discount market. If all the banks are calling in together, the discount market can only obtain the money from the Bank of England. Now it is absolutely fundamental to the Bank's position as a central bank that it should always be prepared to lend to the market when called upon. It must never refuse to help the market. It can charge whatever rate it thinks fit, but *it must lend*. It is the *lender of last resort*.

The second part of the general item Other Securities is called *Securities*. It consists of non-British Government bills, bonds, &c., which the Bank of England can select as it pleases, and which the Bank has acquired on its own initiative. Included in it are the shares and debenture stock which the Bank has obtained when helping to found new institutions like United Dominions Trust, the Bankers' Industrial Development Company, and its own subsidiary Securities Management Trust. There may be at times some ordinary bills of exchange; but in these post-war days of scarce commercial paper it is inconceivable that the Bank would seek such paper in the market, when there are ample Treasury Bills for its purposes. Any bonds of other Governments (e.g. the Indian Government) not held in the Issue Department would appear under this sub-heading. If the Bank of England

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at any time took up debentures of any of its private customers—some of which are great joint-stock companies—those debentures would be entered under this sub-heading Securities.

The next item on the assets side is *Notes*. These have already appeared on the liabilities side in the Issue Department and are thus merely a cross-entry which would be omitted on both sides if the accounts of the two departments were amalgamated.[1] The item shows the unused power of note-issue of the Bank, given the size of the gold stock and of the Fiduciary Issue. The last item, a very small one, is Gold and Silver Coin, and nowadays consists only of silver coin held ready for issue to the commercial banks as they require it for meeting public demands for small change.

The magnitude of many of these items is superficially the result, not of any of the Bank's actions, but of its acting as required by its customers—the commercial banks, the British Government, and others—and by accepting its duty as lender of last resort. But some of the items—Government Securities most plainly—cannot be explained even superficially in this way. The Bank clearly is not passive. And, even when the initiation of a transaction comes not from the Bank but from some outside source, the Bank can affect the course of its business by manipulating the terms on which it will do the business. The Bank is certainly not a purely passive institution opening its doors and waiting to be told what to do by its three classes of customers. To the ways in which it takes the initiative and the technical results of its actions we must now turn.

II. *The Bank of England as Controller of Cash Reserves*

It has been said above that it is the business of the Bank of England to control the commercial banks. Its

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[1] For an example of such amalgamation of accounts, see *Report of the Committee on Finance and Industry* (Cmd. 3897 of 1931), p. 145.

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control of the commercial banks is based on two factors—the commercial banks' system of allowing the size of their cash reserves to have great influence over their most important operations, and the central bank's control over the supply of cash. The former has already been explained in Chapter II. It is now our task to explain the way in which the Bank of England controls the absolute supply of cash.

What is 'cash'? There are two forms of cash. The first is any more widely acceptable form of money into which people may wish to change their less widely acceptable bank deposits. The second form is any other claim (or asset) which the commercial banks choose to regard as equivalent to the first form. The 'liquidity' of a bank is its ability to exchange deposits for cash of the first form when demanded by the public. The second form of cash consists of anything which a commercial bank considers as liquid as the first form. These definitions are extremely awkward; but they are, I believe, as little awkward as is consistent with true general statement of the present position. When we turn from the general definitions to apply them to English conditions our statements become more familiar. Cash of the first form consists of all legal tender money—silver and copper coin and Bank of England notes—that being the most widely acceptable form of money. Cash of the second form consists of the Bankers' Deposits at the Bank of England. In the course of decade after decade of trust in the Bank of England there has arisen, as a result of the Bank of England always having it in its power to offer its own notes in exchange for deposit claims entered in its books, the tradition that the Bankers' Deposits are as useful to the commercial banks as are Bank of England notes.

'Cash' in England may then be re-classified as first, the silver and copper coin provided by the Mint at the instance of the Bank of England, and second, certain liabilities of the Bank of England—the bank-notes and

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the Bankers' Deposits. Of these two classes of cash the first is unimportant—the amount of it varies very little, and, since banks and public alike endeavour to minimize their holdings of such a bulky form of money, no significant change in the total supply of money can be initiated by varying the supply of silver and copper coin. With bank-notes and Bankers' Deposits the position is quite different. If these liabilities of the Bank of England are increased there may be an important increase in the supply of money. With the qualifications discussed in Chapter II the commercial banks make their acquisition of earning assets, and therefore the creation of bank deposits, dependent on their cash reserves. Other things being unchanged, an increase in the notes and 'cash at the Bank of England' held by the commercial banks leads to an increase in the aggregate of bank deposits, and vice versa. If it can control the notes in the commercial banks' tills *plus* the Bankers' Deposits with itself the Bank of England can control the aggregate of bank deposits in the country.

At this point we must recognize the fact that as the system works to-day the bank-notes have become very much like silver and copper coins in that they behave as small change. The Bank of England does not ever by its own action directly add to the notes held by the commercial banks. The latter send round to the Bank of England for more or send some notes back as they choose, adding to or subtracting from their book balances at the Bank, just as members of the public draw notes from the commercial banks in exchange for bank deposits, or take notes to the bank and have their bank deposits increased. The Bank of England allows them to draw out or pay in notes as they choose. When the commercial banks are drawing out notes the Bank Return shows, on the liabilities' side, a decrease in Bankers' Deposits and, on the assets side, a decrease in Notes, and contrariwise.

To the commercial banks, bank-notes, like deposits at the Bank of England, are idle assets. They want them only to meet the demands of the public and to provide what they consider adequate till money. Accordingly they customarily restrict their holdings of notes to about $4\frac{1}{2}$ per cent. of their deposit liabilities to the public. If they draw more notes from the Bank of England it is either because the public are wanting more for circulation or because their aggregate deposit liabilities have risen. Leaving aside the public demands for the moment let us remember that their deposit liabilities to the public will be determined by their own action in acquiring assets. They will not have increased their assets, so increasing deposits, unless their cash reserves have increased. As their note holdings had, as deposits increased, fallen short of the customary $4\frac{1}{2}$ per cent., the other part of their cash reserves—Bankers Deposits at the Bank of England—must have been increased. If the Bank of England can determine the volume of Bankers' Deposits with itself, and can supply whatever volume of notes is appropriate to that level of Bankers' Deposits the Bank of England will be controlling the general operations of the commercial banks.

If the change in the commercial banks' cash reserves is initiated by the public, say, drawing notes into circulation, the chain of events is somewhat different, but the influence is the same. Suppose the members of the public are demanding more notes for circulation. As they draw notes across the bank counters their deposits go down as their holding of notes goes up. The position of the commercial banks is simply the obverse of this: their deposit liabilities to the public are going down and their aggregate cash reserves are going down *by the same absolute amount*. The cash ratio has therefore fallen below the usual figure, notes being very much lower, Bankers' Deposits higher by a less extent, than what is appropriate to the new (lower) level of deposits. Then, if the Bank of England takes no action, the commercial

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banks will set about contracting earning assets, and so contracting deposits further, to the level appropriate to the new level of total cash. They will also draw some notes out of the Bank of England, Bankers' Deposits and Notes at the Bank of England both declining, while the composition of the commercial banks' cash reserves once more assumes its normal complexion. Let us picture this in a highly schematic arithmetical example:

POSITION I

Bank of England Banking Department

Bankers' Deposits	100	Notes unissued	80
Other Liabilities	130	Other Assets	150
	230		230

Commercial Banks

Deposits	2,200	Cash at Bank of England	100
		Cash in tills	100
		Earning Assets	2,000
	2,200		2,200

Ratio, Total cash: Deposits	9 per cent.	approx.
Ratio, Cash at Bank of England: Deposits	4½ per cent.	
Ratio, Cash in tills: Deposits	4½ per cent.	

POSITION II

(after public has drawn £50 millions notes into circulation)

Bank of England Banking Department

Bankers' Deposits	100	Notes unissued	80
Other Liabilities	130	Other Assets	150
	230		230

Commercial Banks

Deposits	2,150	Cash at Bank of England	100
		Cash in tills	50
		Earning Assets	2,000
	2,150		2,150

Ratio, Total cash: Deposits	7 per cent.	approx.
Ratio, Cash at Bank of England: Deposits	4⅔ per cent.	
Ratio, Cash in tills: Deposits	2⅓ per cent.	

POSITION III

(after commercial banks have reacted to fall in cash reserves)

Bank of England Banking Department

Bankers' Deposits	75	Notes unissued	55
Other Liabilities	130	Other Assets	150
	205		205

Commercial Banks

Deposits	1,650	Cash at Bank of England	75
		Cash in tills	75
		Earning Assets	1,500
	1,650		1,650

Ratio, Total cash: Deposits	9 per cent.	approx.
Ratio, Cash at Bank of England: Deposits	4½ per cent.	
Ratio, Cash in tills: Deposits	4½ per cent.	

Position III may never be reached. For if the commercial banks feel confident that the notes will be coming back from the public directly, they will not bother to disturb their earning assets. When the public 'pay the notes into their accounts' again the banks simply revert to Position I. This is what must happen to some extent every day the banks are open. In the morning spenders of money are drawing notes out to meet the day's needs. The notes pass into the hands of tradesmen. Just before three o'clock all the tradesmen's cashiers run round to the bank and in go the notes again. More notes are paid in first thing next morning perhaps (partly through 'night safes'). The banks perhaps approximate to Position I at 10.30 a.m., move towards Position II until 2.30 p.m., then till a little after opening time on the following morning they are moving back to Position I. The same thing happens at week-ends. On Friday afternoon the employers' cashiers go to the banks and draw out notes, those notes being paid out in wages that evening or Saturday morning. During Saturday afternoon and evening the workers and their wives are paying the money to tradesmen, and on Monday morning to the rent-collector, and back come the

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notes into the banks. On Friday morning and Tuesday morning the banks are in Position I, but they had moved to Position II by Saturday morning and then back again.

It is perhaps by now apparent to the sceptical reader that the word 'Notes' has been used throughout the last few paragraphs to mean 'Bank-notes *plus* silver and copper coin'. This is true even of the simplified accounts in the example. The silver and copper coin is a small part of the total, but it behaves in precisely the same way. It is, as we shall see when discussing the regulation of the note issue, the Bank's business to see that it always has an adequate reserve of notes and coin to meet the demands of the commercial banks. But notes and coin are alike in their behaviour. Notes behave as the 'small change' to bank deposits.

Reverting to our example. We have seen that the banks may refuse to pass to Position III, being satisfied that their cash ratio is unduly low for the moment only. But there is another possibility open, which will avert the necessity of passing to Position III even when the banks feel obliged to restore the cash ratio. The drop in the cash ratio has occurred because, in the face of a public demand for more cash for circulation, the Bank of England has remained purely passive. If, however, it is within its power to force an appropriate increase in Bankers' Deposits the cash ratio will be maintained. The commercial banks will find the composition of their cash unusual, till money being short; but they can replenish it by drawing on their deposits at the Bank of England. The final position is then as below:

POSITION III A

(after the Bank of England has provided more cash)

Bank of England Banking Department

Bankers' Deposits . .	97	Notes unissued . .	33
Other Liabilities . .	130	Other Assets . . .	194
	227		227

Commercial Banks

eposits	2,150	Cash at Bank of England .	97
		Notes in till	97
		Earning Assets . . .	1,956
	2,150		2,150

Cash ratios: as in Positions I and III.

In this position the banks have not reverted entirely to Position I. The volume of deposits is smaller by the £50 which the public offered in exchange for the notes taken into circulation. The total supply of money of all kinds in the hands of the public will, however, be the same as in Position I—the notes in circulation being up by the same amount as deposit liabilities of the commercial banks are down. This result may be desired by the Bank of England; but it may prefer a position in which the earning assets of the commercial banks are undisturbed. In that event the Bankers' Deposits must be forced back to the original £100 millions level, and the Bank of England will lose £3 million more of notes to the commercial banks. The atter will revert precisely to Position I; but the Bank of England's position will be somewhat different:

POSITION III B

Bank of England Banking Department

Bankers' Deposits . .	100	Notes unissued . .	30
Other Liabilities . .	130	Other Assets . . .	200
	230		230

Commercial Banks
(as in Position I).

The reader can easily reverse the figures in order to follow the effects of the public paying notes into the banks.

Whatever the public's action in drawing notes from or paying notes to the commercial banks the Bank of England has control over the situation *provided that it can manipulate Bankers' Deposits at will.* Our analysis of the effects of a flow of notes from the banks to the public has been designed simply to show that, whatever the public is requiring in the way of cash, the volume of deposit liabilities

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of the commercial banks depends upon Bankers' Deposits at the Bank of England. How can the Bank of England control this figure?

The careful reader will perhaps already have noticed the clue to the answer in a certain difference between Position I and Position III B above. In the Position III B the commercial banks stand in precisely the same position as in Position I. In the Bank of England the liabilities' side is the same in the two positions; but the composition of the assets side is different. Between Position I and Position III B the notes resting in the Bank of England have gone down by £50 millions—that amount having passed through the commercial banks to meet the increased demands of the public. The item 'Other Assets' has increased by £50 millions. The Bank of England has increased its earning assets by £50 millions, to provide the increase in cash required for circulation. To see what these 'Other Assets' might be we must turn back to the full Bank Return on pp. 86–7, where we see that the assets other than Notes (and coin) are Government Securities, the two classes of 'Other Securities' and, in the Issue Department only, gold. The Bank of England provides cash, then, by buying securities or gold. Sometimes the change occurs, if the Bank does not take the initiative, through the commercial banks calling in money-market loans, the discount houses being forced into the Bank, and Discounts and Advances rising. Or, under some conditions, people may be selling gold to the Bank. But if the Bank has deliberately set about helping the banking system to provide the increase in cash without disturbance, and there has been no increase in gold available, it will have bought Government Securities. In the latter event it is said to have engaged in 'Open Market Operations'. The term Open Market Operations also covers the converse process—when the Bank sells securities in order to reduce Bankers' Deposits.

Just as the commercial banks in fact control the deposit

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liabilities of the public by acquiring assets of various kinds, offering book balances in exchange, so the Bank of England controls the level of its own liabilities by controlling the volume of its assets. Changing its assets sometimes simply involves the Bank of England complying with the wishes of people who come to it offering assets—e.g. bills of exchange or gold, just as a commercial bank can change its assets by the bank manager sitting in his office and saying that Mr. X can overdraw his account as he desires, or by the cashier accepting notes offered over the counter. Alternatively the Bank of England can change its assets by going out into the market, seeking securities or some other assets, just as the commercial bank can add to its assets by buying government bonds through the Stock Exchange, or by buying new offices from a builder.

Controlling assets gives the Bank control over its total liabilities. But Bankers' Deposits, which we have seen as regulators of the commercial banks, are not the only liabilities of the Bank of England. The liabilities to stockholders of course never change, so that they may be ignored. There remain the items Public Deposits and Other Deposits (Other Accounts). A rise in the Government's balances while the Bank of England's total assets, and therefore total liabilities, remain the same implies a fall in Bankers' Deposits. By itself every payment made to the Government has this effect; and every payment made by the Government has the opposite effect. If, the Bank of England's assets remaining unchanged, payments to the Government exceed payments by the Government, Public Deposits rise while Bankers' Deposits fall. This fall implies a decline in the cash ratio of the commercial banks. The experience of the last ten years suggests that the commercial banks often ignore those temporary declines in the cash ratio occasioned by temporary rises in Public Deposits; but any prolonged change would lead to the commercial banks contracting credit somewhat, in response to the decline in their cash reserves. A movement in Other Deposits (Other Accounts) would work in the same way, though such movements are rarely either pronounced or prolonged. If the Bank of England, seeing the composition of its liabilities change, is unwilling to allow that disturbance to affect the operations of the commercial banks, it must manipulate its total assets (and therefore its total liabilities) in such a way as to counteract the effect on Bankers' Deposits of the change in say Public Deposits. If, for instance, heavy tax payments raise Public Deposits, the Bank must expand its total assets, so that total liabilities are increased by the same amount as Public Deposits. Bankers' Deposits will then be unchanged and the commercial banks will be able to leave their earning assets undisturbed.[1] So long, therefore, as the Bank of England is able to manipulate its total assets the existence of these liabilities other than Bankers' Deposits does not destroy the Bank's complete control over the amount of Bankers' Deposits.

We have in this section shown how the Bank of England controls the commercial banks' cash reserves in a general way only. Our answer to the question, how does the Bank of England control the amount of Bankers' Deposits? has been answered only by the general statement: By increasing and reducing its total assets. This general answer we are now to supplement by giving some detailed description of the mechanism by which the Bank's operations govern the volume of Bankers' Deposits.

III. *The Mechanism of Controlling Cash*

We shall consider in this section the mechanism by which changes in Bankers' Deposits are brought about by changes of three kinds: (1) Purchase of Treasury Bills, in

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[1] The operation would leave them with a very slightly higher cash ratio (their deposits having gone down as Public Deposits at the Bank of England went up). If the Bank of England saw the commercial banks reacting to this by expanding their earning assets, it might well disapprove and reduce its own assets again slightly, thereby reducing Bankers' Deposits to the required level.

the market, by the Bank of England; (2) Purchase of gold from ordinary bullion dealers by the Bank of England; and (3) an excess of payments *to* the Government over payments *by* the Government (a rise in Public Deposits). The first two of these changes are examples of additions to the assets of the Bank; the last is an example of a change in the composition of the total liabilities of the Bank. In all cases we shall stop short when we have shown how Bankers' Deposits are directly affected: the reactions of the commercial banks to the changes are dealt with elsewhere. Cases (1) and (2) must not be confused with, respectively, (*a*) Purchase of Treasury Bills directly from the Government, and (*b*) Purchase of gold from the Exchange Equalization Account. These last two cases are discussed later in the book.

First, then, the mechanism of a purchase, by the Bank of England in the money-market, of Treasury Bills. This case has the advantage in simplicity over Case (2) for the Issue Department of the Bank is not affected. We can confine ourselves to the Banking Department and to the commercial banks. The position of these at the outset is

POSITION I[1]

Bank of England Banking Department

£ millions

Private Capital and Rest	18	Government Securities	110
Public Deposits	10	Other Securities	25
Bankers' Deposits	100	Notes, &c.	30
Other Accounts	37		
	165		165

Commercial Banks

Deposits	2,200	Cash in hand and at Bank of England	200
		Earning Assets	2,000
	2,200		2,200

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[1] In all these examples many items have been grouped together for sake of brevity. For more detailed analysis of Bank of England and commercial-bank balance-sheets see pp. 29 and 86-7, respectively.

The Bank of England, wishing to force an expansion of Bankers' Deposits in order to force a general monetary expansion, buys in the discount market Treasury Bills previously held by institutions other than the banks,[1] to the amount of £10 millions. Its holding of government securities goes up by £10 millions (Treasury Bills being one class of government securities). The Bank pays for the bills by giving the sellers cheques on itself. These institutions acquire, in exchange for the Treasury Bills they had been holding, claims against the Bank of England. They will generally bank with one or other of the great joint-stock banks. They pay the cheques they have received into their accounts with the commercial banks. Then the deposit liabilities of the commercial banks have risen by £10 millions, and to set against that increase in liabilities they have now passed on to them by the recipients these cheques, claims against the Bank of England. We can conceive of a momentary Position II:

POSITION II

Bank of England Banking Department

Capital and Rest	18	Government Securities	120
Public Deposits	10	Other Securities	25
Bankers' Deposits	100	Notes, &c.	30
Other Accounts	37		
Unpaid Cheques	10		
	175		175

Commercial Banks

Deposits	2,210	Cash in hand and at Bank of England	200
		Earning Assets	2,000
		Claims against Bank of England on account of Unpaid Cheques	10
	2,210		2,210

The commercial banks do with these cheques on the Bank of England what they do with all cheques drawn on other banks and paid over their counters—they present them through the Clearing House. Ignoring all other changes, the Bank of England will find itself on the day's clearing £10 millions in debt to the commercial banks. It takes the unpaid cheques and pays them in fact by adding £10 millions to the banks' balances with itself—Bankers' Deposits. The position then becomes:

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[1] The great joint-stock banks, it will be remembered, never resell bills.

POSITION III

Bank of England Banking Department

Capital and Rest	18	Government Securities	120
Public Deposits	10	Other Securities	25
Bankers' Deposits	110	Notes, &c.	30
Other Accounts	37		
	175		175

Commercial Banks

Deposits	2,210	Cash in hand and at Bank of England	210
		Earning Assets	2,000
	2,210		2,210

Fundamentally what has happened is that the Bank has taken Treasury Bills from the market, giving its own I O U's in exchange. These I O U's, in the form of cheques, are by the former holders of the bills exchanged at the commercial banks for book I O U's of these last (ordinary bank deposits). The commercial banks take the Bank of England I O U's, in the form of cheques which they have now taken over from the original payees, to the Bank, which exchanges them for Bank of England I O U's in the form of book entries (Bankers' Deposits). Treasury Bills are of course British Government I O U's. The entire process is an orgy of swapping I O U's. At the end of it all, the Government owes to the Bank of England £10 millions more and to the public £10 millions less than it did before. The Bank of England owes the commercial banks £10 millions more, and these last owe the public £10 millions more. The monetary significance of the operation depends on the fact that these debts of the commercial banks to the public *are new money*, and on the

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fact that the commercial banks, finding their cash ratios increased, will now proceed to get still more into debt with the public—so further increasing the supply of money.[1]

The process is precisely reversed if the Bank of England wants to force a reduction in Bankers' Deposits. It sells Treasury Bills in the market and is paid by the buyers with cheques drawn on their accounts with the joint-stock banks. The latter's deposit liabilities to the public are thereby reduced; but at the same time the Bank of England has secured cheques drawn on them. The Bank secures payment of these cheques by deducting their amount from the balances in its books of the commercial banks—i.e. from Bankers' Deposits. The Bank of England in effect says to the commercial banks: 'Your customers have passed on to us your I O U's to the amount of £10 millions. Very well, we shall let you settle the debt by reducing our debts to you by the £10 millions.' Thus a sale of securities by the Bank of England reduces Bankers' Deposits.

Now pass to the case of the Bank of England purchasing gold from ordinary bullion-dealers. The Bank of England is obliged by law to purchase all gold offered to it at £3 17*s*. 9*d*. per standard ounce, and sometimes it pays a higher price. Since 1931 the price of gold has been far above this level, so that the particular case we are now studying has not arisen lately. But it is highly probable that it will arise again later, when the price at which the Bank cannot refuse gold has been raised.

The position at the outset is:

POSITION I

Bank of England Issue Department

Notes Issued:		Securities (amount of Fiduciary Issue) . . .	200
In Circulation . .	270		
In Banking Department .	30	Gold	100
	300		300

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[1] Another reaction which will come sooner or later is a change in the composition of the banks' cash reserves. But this has already been explained (pp. 96–101, above).

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Bank of England Banking Department

Bankers' Deposits	100	Government and Other Securities	135
Other Liabilities	65	Notes	30
	165		165

Commercial Banks

Deposits	2,200	Cash in hand and at Bank of England	200
		Earning Assets	2,000
	2,200		2,200

Then suppose that the bullion-dealers bring to the Bank of England gold which the Bank buys for £10 millions. The dealers have the right to demand notes, but they will in fact prefer to take cheques on the Bank of England. In the Bank of England the separation into two departments complicates accounts. The Banking Department has paid in cheque for gold; but it does not hold the gold itself. The gold is passed to the Issue Department, which is then allowed by law to issue £10 millions more in notes. The notes are paid by the Issue Department to the Banking Department as the price of the gold. In the Banking Department, Notes among the assets are increased by £10 millions—against which there are these cheques outstanding. The bullion-dealers who received cheques on the Bank of England will pay them into their accounts with the ordinary banks. These latter have their deposit liabilities to the public thus increased by £10 millions; and they hold Bank of England cheques which they present through the Clearing House and which are met by £10 millions being added to Bankers' Deposits (as in Case 1). We can this time for brevity omit the intermediate position and show the final position as:

POSITION II

Bank of England Issue Department

Notes Issued:		Securities (Fiduciary Issue)	200
In Circulation	270	Gold	110
In Banking Department	40		
	310		310

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Bank of England Banking Department

Bankers' Deposits	110	Government and Other Securities	135
Other Liabilities	65	Notes	40
	175		175

Commercial Banks

Deposits	2,210	Cash in hand and at Bank of England	210
		Earning Assets	2,000
	2,210		2,210

Bankers' Deposits have been increased by the amount of the gold influx into the Bank of England, and the forces of the monetary expansion are in motion.

The mechanism by which an efflux of gold forces a reduction of Bankers' Deposits may easily be realized by reversing the argument. And by combining Case 1 with the reverse of Case 2 the reader can see how the Bank of England can 'offset' the effects on the banking system of an efflux of gold. By open-market operations like Case 1 and its reverse the Bank of England can insulate the banking system from the effects of international gold flows. The Exchange Equalization Account is simply an institution for using this technique on a grand scale in secret.

Finally we take Case 3, in which an excess of government receipts over government disbursements causes a rise in Public Deposits at the Bank of England. What is the mechanism by which a net payment is made by members of the public to the Government? The individuals draw cheques, for say £10 millions, on their accounts with the commercial banks, the cheques being in favour of the Government. The Exchequer officials 'pay the cheques into the account' at the Bank of England. Public Deposits rise by £10 millions. The Bank of England now holds among its assets these cheques, claims against the commercial banks. It presents the cheques to them, taking at the same time £10 millions off their balances with it—

Bankers' Deposits have decreased by £10 millions. The cash reserves of the commercial banks have fallen by £10 millions and their liabilities also fall by that amount, for they deduct the amounts of the various cheques from the balances (deposits) of the customers who have drawn them. At the outset suppose the position to have been:

POSITION I

Bank of England Banking Department

Public Deposits	10	Government and Other Securities	135
Bankers' Deposits	100	Notes	30
Other Liabilities	55		
	165		165

Commercial Banks

Deposits	2,200	Cash in hand and at Bank of England	200
		Earning Assets	2,000
	2,200		2,200

Then, after government receipts have exceeded government disbursements by £10 millions, we have:

POSITION II

Bank of England Banking Department

Public Deposits	20	Government and Other Securities	135
Bankers' Deposits	90	Notes	30
Other Liabilities	55		
	165		165

Commercial Banks

Deposits	2,190	Cash in hand and at Bank of England	190
		Earning Assets	2,000
	2,190		2,190

In Case 3, unlike Cases 1 and 2 above, there has been no change at all in the assets of the Bank of England. The Bank has taken no positive action: a mere redistribution of its liabilities has been sufficient to set in train forces of monetary contraction.

The mechanism is the same if instead of the Government and its balance called Public Deposits we write the

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Bank of England's ordinary banking customers and their balances called Other Accounts. But far the most common redistributions of the Bank's liabilities are between Public Deposits and Bankers' Deposits.

IV. *Operation of the Bank of England as Lender of Last Resort*

The last section has shown us how the Bank of England can manipulate its assets with the design of fixing Bankers' Deposits at a certain level. But we have allowed ourselves to forget the position of the Bank of England as 'lender of last resort'. Willingness to act as lender of last resort is fundamental to good central banking. The object of the central bank must be to influence economic events by influencing the way people are spending money: it must have power to prevent a change in the composition of the public's demand for money from having any undesired effects on economic activity. If the public wants to hold more cash and less bank deposits, the central bank must be ready to provide more cash. Changes such as these it can meet by varying its assets, as we have seen above. But for confidence to be complete there should be no need to await central-bank initiative at a time of urgency. It must be recognized that the central bank's duty is to lend on demand—to take up assets in exchange for its own promises, which are called cash. This was the lesson which Bagehot taught in his *Lombard Street*, and in this country at least the lesson has never had to be learned again.

In London the function of the central bank as lender of last resort is performed indirectly. There is the highly developed market for short-term paper described in Chapter III. The commercial banks lend money to the discount houses, so enabling the latter to hold bills. The commercial banks regard these money-market loans as highly liquid: and that is because they know that the discount houses, unlike the ordinary business borrower, can pay up on demand. The discount house can, in spite of the fact that it holds practically no money, meet any demands of the commercial banks because it can take some bills to the Bank of England and there secure, either by advances or rediscounting the bills, funds with which to meet the commercial banks' demands. When the market goes to the Bank it is the duty of the Bank to lend. The Bank of England, it is true, has no such legal obligation; but the duty is implicit in its position as central bank, and since Bagehot wrote it has never been questioned.

This functioning of the central bank is a serious stumbling-block for us: for it appears that, when it recognizes its duty as lender of last resort, the central bank abdicates its position as controller of the cash reserves. The Bank remains the only ultimate source of cash; but it promises that it shall be as a widow's cruse! The Bank of England may dispose of assets in order to reduce Bankers' Deposits; but the commercial banks, working through the discount market, can proceed to replenish Bankers' Deposits by calling upon the Bank of England to create more cash in response to the demands of the market. Suppose the position at the outset to be summarized:

POSITION I

Bank of England Banking Department

Bankers' Deposits . .	100	Government and Other Securities . . .	120
Other Liabilities . .	70	Discounts and Advances .	10
		Notes	40
	170		170

Commercial Banks

Deposits	2,200	Cash in hand and at Bank of England . . .	200
		Money at Call and Short Notice . . .	150
		Other Assets . . .	1,850
	2,200		2,200

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Then the Bank of England, wishing to force a contraction of credit, sells securities to the amount of £10 millions.

POSITION II

Bank of England Banking Department

Bankers' Deposits . .	90	Government and Other Securities . . .	110
Other Liabilities . .	70	Discounts and Advances .	10
		Notes	40
	160		160

Commercial Banks

Deposits	2,190	Cash in hand and at Bank of England . . .	190
		Money at Call and Short Notice . . .	150
		Other Assets . . .	1,850
	2,190		2,190

The commercial banks, then, finding their cash reserves short, resort to their second line of defence: they demand repayment of some of the loans they have made to the discount market. The discount houses secure the £10 millions by obtaining advances at the Bank of England (which as lender of last resort cannot refuse to accommodate them), and pay the £10 millions, in cheques on the Bank of England, to the commercial banks. Bankers' Deposits therefore rise again by the £10 millions—they are back again at £10 millions. The position may be summarized:

POSITION III

Bank of England Banking Department

Bankers' Deposits . .	100	Government and Other Securities . . .	110
Other Liabilities . .	70	Discounts and Advances .	20
		Notes	40
	170		170

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Commercial Banks

Deposits	2,190	Cash in hand and at Bank of England . . .	200
		Money at Call and Short Notice . . .	140
		Other Assets . . .	1,850
	2,190		2,190

Bankers' Deposits are restored: the cash basis is just as great as it was before. Has the Bank of England undone with its left hand what it so carefully did with its right hand? Not entirely. There are certain differences between the position at the outset and that now reached. Of the four differences, three may be perceived by a careful comparison of the figures in Positions I and III above. First, there has been a redistribution of the Bank of England's assets: Securities are down by £10 millions, and Discounts and Advances are up by that amount. This, however, is unlikely to bother a central bank, which is not working for maximum profits. Second, there is a change in the assets held by the public: the public holds £10 millions less money (deposits at the commercial banks) and £10 millions more of securities (those sold by the Bank of England). The redistribution must have forced some change in interest rates;[1] but ordinarily the change will have been infinitesimal, and we shall ignore it. Third, there is a change in the ratios which the liquid assets of the commercial banks bear to the deposit liabilities. The cash ratio and that of bills is up a trifle; but the proportion of other liquid assets—Money at Call and Short Notice—is more seriously down. Were this disturbance of liquid assets the result of a shortage of suitable assets in the market, the banks, following the second liquidity rule, might be prepared to acquiesce.

[1] Money being an asset the holding of which entails sacrificing either current consumption or investment income, the public will be induced to hold more money and less securities only if the money price of the latter is raised to less attractive levels. Alternatively one can say that the prices of the securities must be raised so that the interest yield is less, in order to reduce the sacrifice entailed by the holding of barren money.

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But in the case we are considering they are on the whole likely to seek to reduce as soon as possible their other earning assets. On balance the repercussions will be contractionist.

The fourth and most important difference between the original and the final position does not appear in the figures above. This change is that *Bank Rate has been made* '*effective*'. The discount houses have to obtain funds at the Bank of England to replace funds called in by the commercial banks. Now whereas they can generally obtain funds from the commercial banks at rates 1 or 1½ per cent. below Bank Rate, at the Bank of England they have to pay Bank Rate, or, if they are using the Advances method, ½ per cent. above Bank Rate. The higher cost of their 'raw material' makes it necessary for them to raise the rates at which they will discount new bills. Discount rates in the market therefore move up towards Bank Rate. If it chooses, the Bank can then raise Bank Rate with the assurance that market rates will also rise: the fact that 'the market is in the Bank' enables it to make effective any Bank Rate it chooses to announce. The Bank of England acting as lender of last resort never refuses to create cash on demand: *but it can impose its own price*.

As the ultimate source of cash the Bank of England thus exercises effective control over those short-term rates of interest which are quoted in the discount market. But the influence of Bank Rate is far wider than that. Experience, into which we need not enter here, has led to the commercial banks' adopting the official Bank Rate as the basis for wellnigh automatic sliding scales for the general run of their own business. Commercial banks earn their living primarily by offering money now (deposit entries in their own books) in exchange for claims of various kinds to money in the future, charging interest as the price of their service. For liquidity reasons they generally prefer the claims which they accept to be

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'short-term assets'. Their operations are accordingly in general essentially short-term loan operations, and the banks are by far the biggest operators on that side of the short-term market. Regulation of their terms by Bank Rate accordingly makes the latter the guide to short-term interest rates in general. The rates charged for ordinary overdraft advances, for example, though always above Bank Rate are generally subject to a 'Bank Rate clause' providing, with reservations, for automatic change following a change in Bank Rate. Loans to the discount market are almost completely subject to Bank Rate variations. And we have already seen how discount rates are governed by the official Rate. The commercial banks pay a rate of interest to people who hold unchequeable balances (Time Deposits) with them, and this rate (a short-term interest rate, since the deposits are exchangeable for cash at short notice) is frequently also subject to a Bank Rate clause.

Fulfilment of its duty as lender of last resort, then, does not destroy the Bank of England's power over the banking system. Its functioning as lender of last resort does mean that its powers over the aggregate supply of money are subject to some temporary handicap; but as the ultimate source of cash it can always exercise great influence over the prices at which the money is made available to the people (borrowers) who want to spend it. The effect of this price control, or 'Bank Rate policy', on the economic situation is considered in a later chapter.

V. *The Regulation of the Note-Issue*

In the preceding sections we have shown how the central bank bases its power on its position as the ultimate source of cash. In the example of the Bank of England, regulation of the amount of Bankers' Deposits gives the Bank the power it needs. But the habits of the public in wanting notes and smaller change in varying amounts and the dependent habit of the banks in wanting notes, &c., to hold in their tills involve a connexion between

Bankers' Deposits and the issue of notes and smaller change.

The commercial banks adjust their earning assets, and therefore their deposit liabilities, to changes in their cash reserves. Having made a given adjustment in their total deposit liabilities, they seek to adjust their till money to the new level of deposits, by exchanging part of Bankers' Deposits for notes, or notes for Bankers' Deposits, according to whether the change has been expansionist or contractionist. This change in the banks' till-money requirements is likely to be reinforced by changes, in the same direction, in the public's demand for notes for circulation. In controlling the volume of Bankers' Deposits the Bank of England must always remember that an increase in Bankers' Deposits is certain to lead to an increased demand for notes, and that a decrease in Bankers' Deposits is certain to lead to a decreased demand for notes. The careful reader will have noticed that in all the schematic examples we have analysed in the preceding sections the Bank has been assumed to have a reserve of unused notes adequate to meet all the demands which arise. We have now to examine the circumstances which regulate that reserve of unused notes.

What is true of the influx and efflux of notes at the Bank of England is equally true of the influx and efflux of smaller change—silver and copper coin. The Bank of England must always be prepared to exchange Bankers' Deposits for silver or copper coin on demand, in order that the commercial banks may always be prepared to exchange the deposits of the public for silver or copper coin on demand. The Bank of England must therefore always have an adequate supply, else its regulation of Bankers' Deposits may be cramped. The English system of providing subsidiary coinage (for so the silver and copper coins are described by economists) does ensure that the Bank of England shall always have at its command an adequate supply. The coins are produced by the

Royal Mint, which is a government department. The Royal Mint buys metals in the ordinary metal markets and engages labour, &c., to make the metal into coins. It makes its payments (just as does any other government department) by drawing on the Public Deposits at the Bank of England. It is always prepared to sell new coins on demand to the Bank of England. If the Bank of England finds that its reserves of silver coin are running low (as a result of the commercial banks' having been drawing silver coin from it) it buys some more from the Royal Mint. The Bank pays the Mint by adding the appropriate sum to the balance of that government department, so Public Deposits are increased. Meanwhile the Royal Mint is paying for its raw materials, labour, &c., by transferring its bank balance (part of Public Deposits) to individuals. This like any other government disbursement adds to Bankers' Deposits—indeed it restores them roughly to the level at which they stood before the commercial banks drew on them to obtain the silver coin wanted by the public. There is no restriction on the supply of this money. The Bank of England, in regulating the volume of Bankers' Deposits, need never stop to think whether it will be able to supply the appropriate amount of silver (and copper) coin. The Bank has a free hand.

Curiously enough this system does not apply to the issue of that other form of small change which we call notes. The Bank of England allows the commercial banks to draw out or bring in notes, just as it allows them to draw out or bring in silver, as they please; the transaction always being one of exchanging Bankers' Deposits for notes or coin, or vice versa. But whereas when it pays out coin the Bank of England knows that there is the inexhaustible fount of the Royal Mint behind it, always ready to replenish an ebbing stock, in the case of notes there is no such inexhaustible fount. No Royal Mint sells notes to it on demand. Instead there is its own Issue Department, which unlike the Royal Mint is not allowed

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to coin money without restriction. The restrictions imposed on the Issue Department by the Currency and Bank Notes Act of 1928 may be recapitulated here. The Issue Department is allowed to issue notes to the value, at £3 17*s.* 10½*d.* per standard ounce, of the gold it holds. In addition it is allowed to issue notes, 'unbacked' by gold, to the value of £260 millions, or whatever sum may be agreed upon by the Treasury on application by the Bank. Treasury permission to raise this 'Fiduciary Issue' above £260 millions for more than two years is subject to parliamentary review. At the moment (August 1937) the Fiduciary Issue is £200 millions.[1]

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The superficial effect of these restrictions on the Bank's operations is that, in regulating the volume of Bankers' Deposits, it must always keep an eye on its reserve of unused notes. The Bank can only add to its supply of notes by securing more gold[2] or by securing Treasury consent to an increase in the Fiduciary Issue. When more gold is brought to it by bullion-dealers the increase in Bankers' Deposits is automatically accompanied by an increase in the legal note issue so that the Bank need not worry in that case about where the notes are coming from to support the increase in Bankers' Deposits. But when the Bank wishes to cause an increase in Bankers' Deposits when no gold is coming in, or when it wishes to protect, by open-market purchase of securities, the level of Bankers' Deposits from the result of an efflux of gold (which reduces the legal note-issue), it finds its hands tied. Its policy becomes subject to Treasury approval and ultimately to parliamentary review

The effect of these restrictions when there is a contractionist movement in progress is not so positively cramping to the Bank; but it has its disadvantages. Given the gold supply, a contraction of Bankers' Deposits leads to the Bank of England's holding an unusually large amount of unused notes. Similar (and of more frequent occurrence) is the case of the central bank being faced with an influx of gold when it does not wish to see any increase in Bankers' Deposits. It can prevent the increase in Bankers' Deposits by 'offsetting' operations (selling securities); but, given the note-issue law, it is faced with a large supply of unused notes. It might be urged that this should never bother the central bank—there is no obstacle to its keeping down Bankers' Deposits, and it will have all the bigger reserve with which to meet any future demands for notes without bothering the Treasury. Here, one might say, is the chance for the Bank to free itself from the shackles of future Treasury control! Let the Bank rejoice in the piling-up of its unused notes! There are, unfortunately, two disadvantages involved in the accumulation of a large reserve of unused notes. The first is that it implies a sacrifice of income for the central bank. If the Bank is replacing earning assets by this non-earning holding of notes it loses income. This may not, if its profits are already large, be a source of concern. In other circumstances some State action to protect the wealth of the central bank might be called for. A decrease in the Fiduciary Issue is an example of such action.[1] The second disadvantage is more serious and not so easy to overcome. When the business world sees that the Bank of England has an unusually large reserve of unused notes it may well, as a result of traditional influences, jump to the conclusion that an expansionist monetary policy is to be followed. The care with which

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[1] In many countries there is a slightly different system of regulating the note-issue, in which the Fiduciary Issue varies in proportion to (and in the same direction as) the gold reserve. The comments of the following paragraphs refer broadly to both systems.

[2] There is the third possibility of increasing the legal price of gold; but this requires a change in the law, which implies parliamentary support.

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[1] A decrease of the Fiduciary Issue involves the transfer of notes from the Banking Department to the Issue Department (where they are destroyed) and a transfer of securities from the Issue Department to the Banking Department—an addition to the earning assets of the Bank itself, at the expense of the Treasury (which takes the profits of the Issue Department).

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the Bank has prevented the supply of bank deposits from rising may be entirely wasted if the business men, confident in the expectation of an expansionist monetary policy, jump to spending more rapidly the money that is already available. It was probably the spectre of this latter disadvantage rather than the former which led the Bank of England to seek a reduction of the Fiduciary Issue in the autumn of 1936. It did appear at that time enormously important that the Bank should give no encouragement to the speculative boom which was developing. In course of time this disadvantage of a great surplus of unused notes in the Bank may disappear; but at present the business world is still too saturated in the monetary ideas of earlier days for the Bank to take any risks.

Even when it wants to hold Bankers' Deposits down, then, and far more when it wants to push Bankers' Deposits up, the Bank of England is apt to find itself having to seek Treasury approval for its actions. The complete freedom which marks the issue of coin stands in curious contrast to the hedging-about of the issue of bank-notes. Why this contrast? The full answer is one of the most extraordinary stories in monetary history, far too long a story to tell here.[1] The main point is that while authorities long ago recognized that silver and copper coin forms no significant part of the total supply of money, and that an increased facility of supply thereof will induce no one to spend money more freely, bank-notes were regarded as a substantial part, indeed sometimes the main part, of the total supply of money. Tying the supply of notes to the supply of gold therefore implied making the supply of money dependent on the supply of gold—which was what people in those days wanted to do. Later, when it was realized that the bulk of the supply of money was now bank deposits, the chain became more complex. The supply of bank deposits, it was argued, depended on the supply of cash. The supply of cash depended on the supply of notes. Therefore tie the central bank's hands, in creating cash, by tying the supply of notes to the supply of gold. Then the supply of money is regulated by the supply of gold—which was still the desideratum. Such was the position reached before the War. People still paid lip-service to this 'Currency Principle' and to the Bank Charter Act of 1844 in which it was enshrined. They had in fact found ways of working the system on other lines; but still within the framework of the 1844 Act.[1] When the system was re-enacted in 1928 the general principle of tying the note-issue to the supply of gold was retained; but it was made subject to Treasury power to adjust the Fiduciary Issue on application by the Bank of England. It was not at first quite clear how the amended system would be worked; but we can now perceive that this history of anomalies has left us with a peculiar system. The note-issue and therefore also the general operations of the central bank remain nominally tied to gold; but in fact the Fiduciary Issue is so elastic that we can almost forget the tie with the gold supply. The vital tie is that which subjects the Bank of England to Treasury approval. The subjection of the Bank to the Treasury may not mean very much when the law already dictates to the Bank the pursuance of a gold-standard policy: then Treasury permission to change the Fiduciary Issue would presumably be dependent on the Bank's satisfying the Treasury that its operations were directed to the maintenance of the gold standard.[2] When, on the other hand,

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[1] The reader will find much of the story in Feavearyear, *The Pound Sterling*, and Gregory, *British Banking Statutes and Documents*.

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[1] Not the least extraordinary part of the whole story is the way in which the Act of 1844 was sacrosanct in the pre-war City—a community which was thoroughly 'Banking School' at heart and which worked the system in a roughly Banking School way.

[2] It was one of the principles of the Currency School that for maintaining a gold standard an invariable Fiduciary Issue was essential; but no modern theorist or central banker would now refuse to admit that the

State rulings about monetary policy are more nebulous, as they are at present, the power of the Treasury to veto changes in the Fiduciary Issue may become an important rein on Bank of England operations. If the Bank wishes to expand the credit base, and wants to issue the additional notes required to support that credit base, and the Treasury disagrees with the expansionist policy, the Treasury has the whip-hand. Whether it has the whip-hand in the opposite event is not, as the law stands, so certain. How in fact a conflict of opinion between the Bank and the Treasury is likely to be resolved is rather a different question. The tradition of non-interference with the central bank might well be sufficient to allow strong personalities at the Bank to wear down the opposition of the Treasury, despite the legal position. On the other hand, if the stronger personalities were resident in the Treasury the latter would probably exploit its legal powers to the full. Just at present no outsider can tell precisely whether the Treasury or the Bank predominates: on the whole there is probably consonance of views. One does occasionally hear rumours of conflict, and of the resolution of the conflict, but the position is much too obscure for an outsider to be able to say anything definite.

Apart from this system of subjecting the Bank to the Treasury by legal regulation of the note-issue, the Act of 1928 has the incidental advantage of providing a system for sharing the central banking profits between the Bank and the Treasury—a system which is on balance very useful.

It is often said that the central bank should have a monopoly of the note-issue in the country which is its sphere of operations. Yet in fact the Bank of England, which is often regarded as the pattern central bank, has no monopoly: certain Scottish banks enjoy a limited right of

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smooth working of the gold standard is likely to demand alterations in the relation between the stock of gold and the note-issue.

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note-issue. The argument that the central bank should have monopoly of the note-issue is based on the realization that it must control the banking system by being the ultimate source of cash. If the other banks are free to provide themselves with cash by printing notes of their own, the central bank can be thwarted. This argument is perfectly sound provided that the notes of an individual bank are absolutely equivalent to other kinds of 'cash'. The less freely can other cash be replaced by commercial-bank notes the less does it matter if the central bank has no monopoly. The controversy was a lively one from time to time in nineteenth-century England; but its relevance to-day is rather to those countries where new central banking systems are being established.[1]

The cash which originates in the central bank consists of its own notes and its deposit liabilities to the commercial banks (Bankers' Deposits in the Bank of England). If any commercial bank has the power to issue notes and its notes are absolutely interchangeable with the other kinds of cash, then it is free from all central-bank checks on the expansion of its assets (and therefore its share of the total supply of bank money). This absolute changeability implies readiness of the public, all over the country, to accept its notes as willingly as central-bank notes are accepted, and a willingness of other commercial banks to accept the notes of this commercial bank instead of its balances at the central bank, in settlement of inter-bank indebtedness arising in the Clearing House. These are very serious qualifications. If they are not fulfilled the commercial bank which is expanding on the basis of its own note-issue will find its reserves of other cash

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[1] e.g. in Canada, where the commercial banks' original antipathy to the establishment of a central bank was partly due to people arguing that the central bank must take over the entire note-issue of the commercial banks. Had the note-issue powers required by a central bank been more fully understood the commercial banks might have been less fearful of a central-bank scheme.

(central-bank notes and deposits) being drained away by people and by banks who, having received payments in the commercial-bank notes, hasten to exchange them for the more widely acceptable forms of cash. A purely local bank, such as were most of the country banks of mid-nineteenth-century England, could clearly not regard its note-issue as freeing it from central-bank control. If it expanded too rapidly it would lose an essential part of its cash reserve.[1] It is not so easy to see what is to deter excessive issues by a number of commercial banks all over the country which keep in step with each other in their expansion, in the same way as, compelled by ebbs and flows of cash, they keep in step in any other expansion of deposits. What would then happen would be a decrease in the ratio of cash at the central bank (Bankers' Deposits) to deposit liabilities to the public all round. These reserves at the central bank are generally used for the settlement of Clearing House balances; but if the banks were equally willing to accept from each other payment in each other's notes (i.e. if commercial-bank notes were regarded by the commercial banks as precisely equivalent to deposits at the central bank) they could afford to allow their reserves at the central bank to decline relatively to their deposit liabilities. Difficulties for the central bank arising therefrom can be averted if law (or custom having almost the force of law) imposes a quite artificial distinction between deposits at the central bank and commercial-bank notes. This can be done by law or custom compelling the commercial banks to hold at the central bank balances equal to a certain percentage of their deposits plus notes. This is a very common provision in modern banking codes, and where it exists the general argument against commercial banks' having the right to issue notes breaks down.[1] In England custom alone dictates that the commercial banks should hold deposits at the central bank equal to about 4½ per cent. of their deposit liabilities; but the custom is probably sufficiently strong for the central bank's monopoly of the note-issue to be unessential to its controlling powers.

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[1] It may however be argued that some time may elapse between the damaging local expansion of credit and the cash drain which puts a stop to it. The question was keenly debated by many writers on English banking in the first half of the nineteenth century. A review of the controversy will be found in Viner, *Studies in the Theory of International Trade*, pp. 154-165.

If there is any feeling that unrestricted note-issues of commercial banks undermine the authority of the central bank the law can restrict the commercial banks' issues in such a way as to restrict to the central-bank issue all power of significant variation.[2] The commercial banks can be granted the right to issue up to certain maximum amounts —maxima which it is expected will always, under any conceivable conditions, be approached. Then the commercial banks, though enjoying the income derived from these issues, are unable to indulge in a policy contrary to the will of the central bank, for the latter, controlling the variable part of the issue, can make the *total* note-issue and total cash what it chooses. This compromise is attractive when the legislature is unwilling to transfer from the commercial banks to the central bank all the income derived from note-issues[3] but does not want to leave the central bank's powers subject to any handicap. The compromise was devised by Peel for the transitional period, following the Act of 1844, during which the country issues were gradually terminated, and more recently it has been used in Canada. The compromise system remains the system regulating the note-issue in Scotland.

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[1] There remains some case against it in countries where banking is relatively undeveloped and where accordingly bank deposits are not the dominant part of the supply of money.

[2] Seasonal variations may quite harmlessly be allowed in commercial-bank issues.

[3] Notes are a possible source of income to the issuer, for he can issue them (like deposits) in exchange for earning assets.

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VI. *Central Banking in the United States*

In the earlier sections of this chapter we have been concerned with the general principles of central banking technique, with special reference to the English system. We proceed now to show how these general principles are applied in the somewhat different structure of American banking. The particular technique of central banking which has been devised to suit the American structure and American susceptibilities is bound to be a pattern for central banking operations in many other countries. But in the newer countries of the world, particularly the British Dominions, the technical problems of central banking are so different from either British or American conditions that we defer discussion of them to a separate chapter at the end of the book.

Let us emphasize at once the applicability to American conditions of the fundamental principles of central banking which have been discussed above. In the United States as in Britain the power of the central bank over the commercial banks is dependent on the central bank's position as an ultimate source of cash. Cash in America consists of Bankers' Deposits at the Federal Reserve Banks, and the bullion certificates (both gold and silver certificates) which are issued by the Federal Treasury in exchange for bullion. The bullion certificates take the place of the Bank of England notes issued against gold. There are a number of other types of notes in circulation, but all significant changes in their supply are now under the control of the Federal Reserve System.[1] The Federal Reserve System can add to the supply of cash by adding to its assets, and contract the cash reserves of the banking system by selling assets, just as the Bank of England does. It can put its own price on the use of money which it

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[1] It is impossible in the space of this book to give all the complicated details of the American monetary system: they must be sought in the special works on the subject.

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creates when it functions (as it is bound by law to do) as lender of last resort. In all these ways the American system is parallel to the British. The significant differences of structure are two: (1) in America the commercial banks have direct access to the central bank as lender of last resort, and there is normally some commercial-bank indebtedness to the central bank, whereas in Britain the contact is indirect—the commercial banks being customarily able to secure cash from the central bank only through the channel of the discount market; and (2) whereas in Britain the cash ratio is customary only, and is one flat ratio applied to all deposits, in America the cash ratios are different according to the classes of deposit liabilities; they are legal minima, and they have been subject to revision by the central bank.

In English conditions a bank requiring to replenish its cash reserves calls in loans which it has made to discount houses, and the discount houses provide the bank with the Bankers' Deposits which the bank is wanting. The United States, when setting up their central banking system, could not establish a discount market overnight, so that their choice of the alternative system was Hobson's choice. Any member bank desiring to replenish its cash reserves can do so by taking to its Federal Reserve Bank certain classes of assets[1] and borrowing directly from the Reserve Bank, just as a discount house would borrow from the Bank of England. Or it can rediscount eligible bills there, again as the discount house might in England. The Reserve Bank of course fixes its own price for the transaction, just as does the Bank of England.

Under these arrangements there are normally some

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[1] 'Eligible' assets were originally certain narrowly defined classes of 'self-liquidating paper'. But under the Act of 1935 the 'Reserve Banks may make loans to member banks on paper otherwise described as ineligible, but subject to the provision that they shall be for not more than four months and that a penalty in the way of interest be added of not less than ½ per cent.' (see A. D. Gayer, 'The U.S. Banking Act of 1935', in *Economic Journal*, 1935, p. 783).

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member banks in debt to the Reserve Banks. The member banks can accordingly thwart a Reserve Bank sale of securities (which diminishes member bank reserves) by borrowing the same amount from the Reserve Banks. It is true that the Reserve Banks can choose their price and so influence short-term interest rates throughout the country; but their control over short-term interest rates in practice operates quite differently from the Bank of England's control. Unable though the American system was to create over night a structure like that of London, there are established in the United States certain banking traditions parallel to those established in England. Among these is the tradition that a bank should, if possible, avoid borrowing from another bank. To be in debt to another bank is thought to be a sign of weakness. Accordingly member banks finding themselves in debt to the Reserve Bank (having had to borrow to raise their reserves to the legal minima) hasten to contract their loans (and therefore the aggregate of bank deposits in the country) for a reason which has nothing directly to do with the cost of borrowing from the Reserve Bank.

The working of the Reserve System's control has in practice depended very much on this distaste for borrowing from the Reserve Banks. And it is perhaps for that reason that the Reserve System has, during a great part of its life, discouraged prolonged or extensive borrowing on the part of any one member bank by moral pressure. Whether it will do so again in the future remains to be seen.[1] Anyway, in the past any appreciable increase in member bank indebtedness to the Reserve Banks has quickly shown itself in a contractionist movement. Interest rates have risen sharply in New York, less sharply in other centres, and less sharply still in the remoter parts.[1] When the Reserve System wants to force a contraction of bank credit its first operation has generally been not to raise its discount rate, but to sell securities in the open market. Selling securities diminishes (as in England) commercial bank cash reserves and deposit liabilities by equal absolute amounts. To support their cash reserves at the legal minima the member banks have to borrow from the Reserve Banks. The rise in member bank indebtedness at once leads to a general contractionist movement, interest rates charged by bankers rising all over the country—more in New York, less in the remote country districts. The Reserve System then proceeds to raise its own rediscount rate, bringing it into line with the generally higher structure of interest rates in the country. In England open market operations (apart from offsetting operations) are apt to be used rather to make an existing official rate 'effective' in the discount market: the general structure of bankers' rates moves with the official rate. But in New York the open market operations are used to initiate the movement in rates generally, the change in the official rediscount rate coming at the end of the process, and doing scarcely more than registering accomplished fact.

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[1] The excess reserve position at the moment makes any extensive borrowing unnecessary, so that we have no guide to the ideas on this point of the reconstructed Reserve System.

An expansionist movement has frequently been initiated in the same way. The Reserve System has purchased securities in the market, member bank indebtedness has fallen to unusually low levels, and perhaps excess reserves (i.e. reserves above the legal minima) have appeared. The member banks have then reduced interest rates and set about adding to their assets. Rates of interest in the market having actually fallen, the Reserve System reduces its official rate: that change being the last, and not as in England, the first stage of the operation.

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[1] This structure of interest rates over the country is by no means peculiar to the United States. In general interest rates tend to be volatile at the monetary centres and relatively rigid in the remote regions.

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Dislike of member bank indebtedness to the Reserve Banks, on which the above process depends, had unfortunate effects in the banking crisis of 1933. Public distrust in the solvency of a commercial bank leads to a demand to exchange the debts of that bank ('deposits at that bank') for other forms of money. The only way in which the spread of panic can be checked is accordingly for the central bank to take over from the commercial bank, as rapidly as it can, the assets of the commercial bank, giving in exchange its own liabilities which will probably, at any rate in the early stages of a banking crisis, be acceptable to the public. If, instead of this, the commercial bank simply presses its claims against other banks, as generally happens in a correspondent banking system, not only one commercial bank but a whole chain of banks is likely to be forced to close its doors. If a repetition of the banking crisis of 1933 is to be avoided not only must the central bank realize the full extent of its responsibilities, but commercial banks must also be quick to resort to the central bank, rather than attempting to push their troubles on to correspondent banks. Fuller use of the central bank in difficult times is facilitated by the enormous extension (by the Act of 1935) in the classes of assets which may be taken over by the Federal Reserve System; but unless the member banks are ready to use these facilities, and use them promptly, the great advantages of having a lender of last resort are lost.[1]

The second great difference between the American and English systems is that, while in England the cash ratios of the commercial banks are determined by the banks' own observance of custom only, in America the cash ratios are determined by law. Under the amending Act of 1917

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[1] Full use of central bank facilities does not of course protect depositors from the consequences of a commercial bank having incurred losses beyond the amount of its proprietors' capital: hence the need in the United States for the Deposit Insurance System.

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the legal cash ratios were fixed at 3 per cent. against Time Deposits (Deposits cashable only at notice of at least one month) and 7 per cent., 10 per cent., or 13 per cent. against Demand Deposits according to the geographical position of banks. Member banks in New York and Chicago, where the banks in the correspondent system have great liabilities to other banks, had to maintain the 13 per cent. reserve. Member banks in other so-called reserve cities had to maintain the intermediate ratio, the lowest ratio applying to all other banks. These legal minimum cash ratios refer to the proportion which member bank reserves at the Reserve Banks must bear to the member banks' deposit liabilities to the public. Till money is not included in legal reserves. The legal ratios detailed above are comparable to the English figure of 4½ per cent. (the ratio of Bankers' Deposits at the Bank of England to total deposit liabilities to the public), not to the English 9 per cent. In other countries the cash to which the legal ratio is applied may include forms of cash other than deposits at the central bank.

The distinction for this purpose between Time Deposits and Demand Deposits is due to the limitation of the public's right to exchange Time Deposits for cash. This point shows how the cash reserve ratios were based on the protection of the public against banking illiquidity rather than on the significance of the cash ratio for central bank control. The very much lower ratio to be held against Time Deposits than the ratios to be held against Demand Deposits may be, as we shall see in a later chapter, a source of embarrassment to the efficiency of central bank control. Despite much discussion on this point, the confusion between legal regulation of cash reserves to protect the public against banking illiquidity and legal regulation of cash reserves to give control to the central bank has continued to appear in new central bank charters (as e.g. in those of New Zealand, the Argentine, and India). For purposes of central bank control one flat rate is highly desirable. Open market operations may then be relied upon to cause a predeterminable change in the aggregate supply of bank deposits in the country.

The control which the institution of legal minimum reserves gives to the central bank may be contrasted with the English system in which reserve ratios, being only customary, can be altered at the will of the commercial banks. But the contrast must not be misunderstood. In America the member banks may not allow their cash reserves to fall below the legal minima; but there is no law to prevent them from raising their reserves *above* the legal minima. As we have seen in an earlier chapter, however, the profit motive may normally be relied upon to prevent the maintenance of excess reserves. The exception to this rule occurs when the earning assets available for banks to take up are not, in one way or another, sufficiently attractive. We saw how in England a shortage of the more liquid assets or fear that the prices of medium-term government securities might fall could induce the commercial banks to allow their cash ratios to rise. In America similar circumstances have been at work. The supply of bank cash has been greatly increased by the gold influx. The demand for commercial loans has been at a very low ebb, reaction after the banking crisis has made the banks unwilling to touch whole classes of assets, and they have taken up enormous amounts of government securities. The yields on these last have been very low, and the longer the lives of the government bonds the more uncertain are their future prices. The banks have been unwilling to stuff their portfolios with government securities *ad infinitum*, and have preferred to allow their cash ratios to rise far above the old legal minima. A position arose in which the surplus reserves of the member banks were so great that it became simply impossible for the Reserve System to bring any contractionist pressure to bear by selling

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securities. Their 'ammunition' might well have been exhausted long before member bank reserves had been brought down to the legal minima. With boom conditions already appearing, the central bank was powerless to do anything to check an enormous inflation of bank credit as the demand for it developed.

To meet this extraordinary position the Banking Act of 1935 empowered the Federal Reserve Board to vary any or all of the legal ratios up to between the former levels and twice those usual levels. The ratios have been raised, in three stages, to the maxima allowed by this law—6 per cent. against all Time Deposits, and 14, 20, or 26 per cent. against Demand Deposits. No further rise is possible without a change in the law; but the ratios could be varied downwards, subject to the former limits. This power to vary the reserve ratios of the commercial banks is an important adjunct to the powers of a central bank, as it can be used to reduce enormously the extent of the open-market operations necessary to enforce a given policy. In New Zealand the Governor of the central bank, acting with the authority of the Minister of Finance, has power to raise or lower the reserve requirements, subject only to a lower limit. The New Zealand authorities have not yet exercised this power; but in a country where extensive open-market operations by the central bank are subject to great difficulties, the mere existence of the reserve-variation weapon is obviously going to add enormously to the influence of the central bank.

To return to the American system. Differences of structure and—curiously enough—similarities of tradition have made open-market operations the typical initiatory action of the American central bank, while in England Bank Rate changes more often come first. But this difference is superficial only. In both cases the central bank's action is directed to controlling the supply, and therefore the price, of bank money throughout the banking system. In both cases its control is dependent on its

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position as an ultimate source of cash,[1] and on the commercial banks' being obliged by custom (in England) or by law (in America) to maintain certain cash reserves. The absolute amount of cash is subject to central bank control: given the absolute amount of cash, and given the cash reserve ratios of the commercial banks, the volume of deposits is determined.

This completes our discussion of the fundamental powers of a central bank. We have already seen how its operations may be hedged about by note-issue laws restricting its freedom in creating cash. We have now to examine the rather different question of whether the power of the central bank is dependent on its confining itself to the central banking functions which we have been discussing in the last five sections.

VII. *The Central Bank as Banker to the State and to Others*

The central bank's control over the commercial banks depends on its power to create cash and on the commercial banks' need to relate their liabilities to their cash reserves. The central bank's power to create cash depends on the fact that claims against it—its deposit or note liabilities—are regarded as cash. The more I O U's it likes to create, the greater is the supply of cash. The deposits at the central bank which stand in the names of the commercial banks are the basis for the whole superstructure of bank deposits in the country. But if the central bank acts as banker to institutions other than the commercial banks, part of its liabilities are not used as cash at all, but form part of the total of ordinary bank deposits in the country. A redistribution of central bank liabilities, in favour of Bankers' Deposits and against

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[1] In both countries legal provisions obliging the authorities to supply cash in exchange for gold (subject to certain price conditions) are a source of embarrassment to the central bank, in that an auxiliary source of cash is created. This hindering of the central banks is, however, intentional.

Other Accounts, in effect causes an increase in the cash basis of the commercial banks. Such a redistribution can be caused in the same way as the deposit liabilities of the commercial banks are redistributed—by one customer drawing cheques in favour of other customers. Clearly the power of the central bank's customers to cause, in this way, a change in the cash basis of the banking system, without the central bank taking any action at all, is potentially a source of embarrassment to the central bank. It does not, as we have seen in an earlier section, destroy the central bank's control: for the central bank can neutralize the redistribution of liabilities by adding to or subtracting from its total assets. But the fact remains that acting as banker for persons or institutions other than the commercial banks does involve it in operations which would otherwise be avoided. The addition of these complications to the difficult business of central banking must be counted a disadvantage of the central bank's acting as banker for any one except the ordinary commercial banks.

This argument has equal force, whether we are considering the State or ordinary business people as customers of the central bank. A rise in Other Deposits (Other Accounts) at the Bank of England is just as disturbing to the supply of cash as is an equal rise in Public Deposits. In practice the changes in Public Deposits are much the more important source of disturbance—for Public Deposits are the balance of one huge institution, whereas Other Accounts contain a number of relatively small balances. A temporary disturbance of say 20 per cent. in one of the balances which comes under the item Other Accounts may well be offset by opposite movements in other balances which also come under that heading. But a 20 per cent. change in the balance of the single institution the State can cause an appreciable disturbance in the cash basis. On this count, therefore, the case against the central bank acting as banker to the Govern-

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ment might be stronger than that against its acting as banker for a number of other ordinary customers.[1]

But there are two other arguments to be considered. When the central bank does ordinary banking business for customers in the same way as the other banks do, it is entering into competitive relations with the commercial banks. This is likely to be derogatory to the central bank's authority over the commercial banks: they may well feel themselves not obliged to listen to the requests of a competing bank. There was even talk, when these circumstances arose in earlier English banking history, of the commercial banks themselves ceasing to be customers of the Bank of England if the latter continued its competitive attitude. Their deposits with the central bank bring them no return: then why, say the commercial banks, should the central bank make profits by lending funds to people who might have borrowed from us? Antipathies of any kind between the central bank and the commercial banks are most undesirable. In the interest of the smooth working of the system there should be an atmosphere in which mutual help is possible at any time. This is a serious argument against the central bank entering into ordinary banking business. It applies to private custom, not to the custom of the State: for the central bank is, after all, a State-created institution, and the commercial banks can scarcely complain of the State taking its own substantial banking business to its own institution.

Under the influence of arguments such as these most central banks are prohibited from doing ordinary banking business with the public. The Bank of England has still, as a legacy from its earlier history, a number of ordinary customers, but for many years now it has signified its unwillingness to compete with the joint-stock banks, by

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[1] In England the variation in Public Deposits is probably not so serious as would appear from the weekly Bank Returns. It is understood that the Treasury endeavours to avoid any marked variations in Public Deposits.

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refusing to accept new customers. Old accounts are allowed to run on; but it is conceivable that the course of time will see a complete extinction of this relic of earlier days. The Bank of England also includes under the heading Other Accounts the balances of the Indian and perhaps some other governments which bank with it, and those of foreign and Dominion central banks. But with the great development of the market in Treasury Bills these accounts do not appear to be subject to very great variations—the variations in London balances of other governments and central banks are probably absorbed in variations in their holdings of Treasury Bills. Before the War, when the market in Treasury Bills was far more restricted, these balances at the Bank of England used to be subject to great variation; but the Bank of England managed to use those variations rather to its own advantage in controlling the market.[1]

There are some special arguments for the central bank undertaking, indeed seeking, ordinary banking business in countries where the banking system is relatively undeveloped, or where other circumstances subject central bank operations to peculiar difficulties. To these special arguments we refer below, in Chapter XIII.

To return to the question of whether the central bank should act as banker to the Government. We have already given a substantial argument against—the argument that disturbances in the cash basis of the banking system are apt to arise. On the other hand there is the argument that the financial arrangements of the Government are of such enormous importance in influencing the business affairs of the country that it should be in constant consultation with the central bankers. The ordinary business man has his bank manager to consult, when he chooses, on the financing of his business. The Government likewise may benefit by having bankers' advice at its disposal, and that

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[1] On the pre-War business see my *Bank of England Operations, 1890–1914*, chap. ii.

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advice should be the very best obtainable. The magnitude of the Government's operations makes it desirable that their effect on the central bank's efforts to follow a given monetary policy should be considered.[1] In addition, people who favour close State control of central banking see in the daily consultations between the central bank and the Treasury (as banker and client) a rein on the independence of the central bank. These weighty arguments in favour of the central bank acting as banker to the Government have prevailed almost universally.[2] It is therefore worth asking how the disadvantage (disturbance of the cash basis) can be averted, or at least modified?

Changes in the Government's balance at the Bank of England are due to inequality between total receipts and total disbursements—capital items and current items have all to be counted. Now it is practically inevitable that expenditure by the Government should be concentrated in particular parts of the year. Dividend payments on great war loans, for example, cannot be spread evenly over every day of the year. It is convenient to make payments for the 'supply services' very unevenly. Revenue from taxation also comes in unevenly: income-tax payments, for example, are concentrated largely in January and July and especially in the first quarter of the calendar year. The nature of government current receipts and payments make it impossible to arrange for equality between them from day to day and week to week. But if the Treasury can arrange to have capital receipts in excess of capital payments at a time when current expenditure is running ahead of current revenue, the discrepancy

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[1] It is sometimes argued that the central bank must be banker to the State in order that it should know just what movements in government deposits it has to offset; but this argument is fallacious. If the government banks with commercial banks, movements in government balances do not disturb the cash basis, and it is disturbance in the cash basis, not in the distribution of ordinary deposits, that the central bank has to watch.

[2] In the U.S.A. a large part of the government balances are held as deposits in the commercial banks.

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on current account does not disturb the balance at the Bank of England. When the British Government borrowed only on long-term paper (consols particularly) it was impossible to make these temporary adjustments in the capital account. But the invention of the short-term Treasury Bill has revolutionized the situation. At the end of the nineteenth century Treasury Bills were in use, but their issues were restricted to supplying funds for particular classes of government expenditure, and it was not until the early years of the present century that they became an unrestricted means of raising funds for the Government.

During the War the Government, pressed to make the most of every source of funds, increased the amount of Treasury Bills outstanding enormously. Since the War their volume has been maintained, mainly no doubt because it is a cheap way of obtaining funds. All Treasury Bills now have a 'currency' (i.e. life to maturity) of three months. They are issued in weekly batches, and as there are some hundreds of millions' worth outstanding the weekly issue amounts to some £30 millions to £50 millions.[1] Every week a batch issued three months previously matures, and the payments to the holders occasion a transfer at the Bank of England from Public Deposits to Bankers' Deposits. At the same time a new batch is issued and as the market takes up the new bills there is a transfer from Bankers' Deposits to Public Deposits. By arranging the gap between maturities and the new issue to equal and be in the opposite direction to any discrepancy between current revenue and current expenditure, the Treasury can arrange to keep its balance approximately stable.[2] Similarly the disturbance which the maturity of a

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[1] I am excluding the 'tap' issue (which is taken up entirely by government departments) as it does not directly affect the distribution of the Bank of England's deposit liabilities.

[2] The Treasury can also of course buy Treasury Bills in the market before maturity.

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block of medium- or long-term bonds, or a new issue of such bonds, would occasion can be largely prevented by manipulation of the Treasury Bill issues.[1]

The rise of the Treasury Bill has thus enabled the authorities to do much, in this country, to avert the main disadvantage which arises from the central bank acting as banker to the Government. The Treasury Bill method of government financing has indeed almost come to be considered as an essential adjunct to a central bank structure, central bankers in the British Dominions being particularly anxious to develop the Treasury Bill system. While the authorities can do much along these lines, the commercial banks have also, at any rate in British conditions, learned to do much to protect themselves from the worst consequences of movements in Public Deposits. Detailed analysis[2] of British banking statistics for the period 1925–35 has shown that, when the cash reserves of the commercial banks shrink or swell as a result of a change in Public Deposits or Ways and Means Advances, the banks do not rush to make any adjustment in their earning assets—they simply allow their cash ratios to fall or rise. They have learned by experience that many of these movements are purely temporary, and ignore them. Part of the change in the cash ratio is allowed to see daylight in their published returns, but much is concealed in a variation in the amount of window-dressing. Indeed, it may even be suggested that one of the incidental advantages of window-dressing is that it allows us to secure the advantages of the Government banking with the central bank without feeling the disadvantage of the resulting disturbance in the cash basis. But the advantage of the commercial banks treating these variations in the cash basis in this particular way should not blind us to the fact that the variability of the commercial banks' cash ratios is a potential source of weakness in a central banking system. If variations in the cash basis are occasioned by changes in Public Deposits, it is all the more important that there should be co-operation between the central bank and the commercial banks, lest the latter treat in the same cavalier way variations in the cash basis which are the outcome of deliberate central bank action.

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[1] Manipulation of the assets of public departments can also play an important part in such operations. For an analysis of an excellent example see Hall, 'Some Technical Aspects of the Finance of Rearmament', in *Economica*, 1937, p. 137.

[2] Made by Mr. R. M. Goodwin, in the thesis referred to above.

This expedient, of doubtful desirability in any case, is not so easily adopted in countries where the cash ratios of the commercial banks are subject to statutory regulation. It is true that the free margin, above the legal minimum, can be raised and lowered in response to disturbances in the central bank's other liabilities; but in times of brisk demand for bank loans especially the margin is apt to be minimized. In such countries there must be more complete dependence on the Treasury Bill system. It is possible that in course of time window-dressing on the part of the English commercial banks will disappear, and then, if they are to maintain approximately stable true cash ratios, we shall have to rely almost entirely on the Treasury Bill system for insulating the general credit structure from ebbs and flows of government funds. Even now the smooth working of the London money market depends very largely on the existence of a large block of Treasury Bills.[1] And the Treasury Bill is an ideal asset for the central bank to deal in: there is no risk of default, and the shortness of its term implies such a degree of stability in its capital value that no conceivable variation in interest rates can make the central bank's operations in Treasury Bills a source of appreciable losses.

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[1] A minor but illuminating example of the way in which the London market has learned to use the Treasury Bill system has occasionally been afforded in recent years by operations at the end of each half-year (30 June and 31 December). The commercial banks then indulge in a colossal amount of window-dressing, raising their cash ratios by calling in discount market loans and by arranging bill maturities. This always used to result in heavy borrowing by the discount market at the Bank of England; but recently the market has learned to 'make the Government do the borrowing for it'. The Treasury Bills issued each week can be taken up on a day in the following week chosen by the original buyers of the bills, and they mature three months later (maturities falling on a Sunday being

We conclude then that by the establishment of a Treasury Bill system—a system which has other substantial advantages—the main disadvantage of the central bank acting as banker to the State can be averted. The central bank should therefore be the Government's banker in order to secure the advantage (such as continual consultation on financial affairs) to which we referred above. Ordinary banking business for the general public the central bank should, on the other hand, in general forswear. It is essentially a public, non-profit-seeking institution, and any business which is likely to embarrass the operations we have discussed above should not be lightly undertaken.

paid on the Saturday). Suppose then that 28 and 29 March are Monday and Tuesday, the market, tendering for bills on Friday, 25 March, can take up all the bills on the Monday and Tuesday (instead of spreading them evenly over the week). The bills then mature on Tuesday and Wednesday, 28 and 29 June. On Friday, 24 June, the market will have tendered for bills to take up in the following week, and will have undertaken to take them up after the tightness of 30 June has passed—i.e. on Friday, 1 July. The Government will then have to meet a full week's maturities—say £40 millions—on Tuesday and Wednesday, and will not be receiving funds back from the market until Friday. The market secures before the 30th the funds with which to meet the banks' requirements for 'making-up'. The Government's balance (Public Deposits) is unequal to the strain and it borrows from the Bank of England by 'Ways and Means Advances'. These are entered under 'Government Securities'. The Government, not as formerly the market, does the borrowing. 'Government Securities' at the Bank of England rise instead of 'Discounts and Advances', to allow the rise in Bankers' Deposits necessary to raise the cash ratios of the commercial banks. The process involves some tightness in market funds at the ends of March and September. (It should be emphasized that the possibility of this device depends upon the dates happening to be convenient days of the week. The example given above has been somewhat simplified.)

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The technical equipment of a central bank, which we have examined at such length, enables it to control the prices of short-term loans by controlling the supply of bank money. Given an adequate technical equipment a central bank can pursue whatever 'Bank Rate policy' it chooses. The effects of a given Bank Rate policy on the general economic situation must be our next concern.

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CHAPTER VI

THE THEORY OF BANK-RATE CHANGES[1]

I. *Interest Rates and the Holding of Goods*

THE most powerful weapon which the monetary authorities can use, for the purpose of influencing the level of prices and the volume of economic activity, is generally summarized in the term 'Bank Rate'. More specifically, the banking system influences the behaviour of entrepreneurs (and so the volume and pricing of economic activity) by exercising pressure on interest rates. Although there are substantial differences of view on the efficacy and detailed working of this 'Bank Rate' weapon, it is generally agreed that the banking system *can* influence prices and production by its use. As to how the weapon works there are two main lines of thought: that typified in the works of Mr. Hawtrey, in whose view the influence of short-term rates directly on dealers' activities is the mainspring of change; and that of Mr. Keynes in the *Treatise on Money*, in which long-term interest rates are all-important. But both these lines of thought have the same starting-point: both see banking policy as effective because *it influences the cost of holding goods*. That there are costs, other than interest charges, involved in the holding of goods—costs such as those of warehousing, depreciation, insurance—is of course admitted, and of this we shall have to remind ourselves presently. But the interest charge forms part of the total cost of holding goods, whether that interest charge is the direct charge actually met by a borrower or the indirect charge met by a capitalist, who thereby misses the opportunity of investing his own money elsewhere. And since the bankers can influence this part of cost, they can influence total cost, and accordingly the relative attractiveness of holding goods. If, as a result of the bankers making the holding of goods more attractive, entrepreneurs set about adding to their holdings of goods, then prices and the volume of economic activity tend to rise. Conversely, if the bankers make the holding of goods less attractive than it was before, then entrepreneurs will set about reducing their holdings of goods, so depressing prices and the volume of economic activity.

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[1] For an analysis of pre-War theories of Bank Rate see Keynes, *Treatise on Money*, chap. xiii. On current theory, the first part of Mr. A. T. K. Grant's *Study of the Capital Market in Post-War Britain* is useful. His approach is different, but his conclusions practically the same as mine.

As far as this there is no difference between the Hawtrey view and the Keynes view. Their difference lies in the class of goods the variation in the holding of which is considered more important. In the Hawtrey view the main initial variation is in the willingness of *dealers* to hold working- and liquid-capital goods—stocks of finished and semi-finished goods. Since the holding of these goods can be financed by short-term loans, the movement of short-term rates is, in the Hawtrey view, sufficient to explain changes in the economic situation. In the alternative view the demand for working capital is rather the *result* of the general situation, which is itself determined by the demand of entrepreneurs for *fixed* capital goods. Since in a banking system of the English type the holding of fixed capital goods can be financed only by long-term, non-banking loans, this Keynesian line of attack involves a long digression on the connexion between long-term and short-term interest rates. It should be realized that these two explanations of the effect of banking policy upon prices and production are not mutually exclusive: a fall in short-term rates may well *both* stimulate additions to stocks *and* lead to a fall in long-term rates which will stimulate investment in fixed capital. The difference is one of emphasis only. To Mr. Hawtrey the former effect appears quick and certain, the latter remote and questionable; to those who approach the problem along Keynesian lines dealers' response to lower short-term rates appears slight and unimportant as compared with the more far-reaching changes in long-term capital investment. We will now consider these two lines of thought in detail.

II. *The Hawtrey Line of Thought*

First let us consider Mr. Hawtrey's 'dealer'. The dealer is a man who is always holding greater or smaller stocks of some finished or semi-finished commodity. One inevitably thinks of him as a wholesale merchant; but I do not think that Mr. Hawtrey intends the term to be limited in this way. Rather the dealer is any person who holds stocks. Now stocks are held for convenience—in order to be able to meet variations in customers' demands without making the latter wait, and in order also to avoid the consequence of variations in supply (due to weather, labour disputes, &c.). This convenience of holding stocks has a certain money value to the dealer, and he balances that value against the cost of holding stocks. As the cost of holding stocks rises, he thinks it worth while suffering some slight loss of convenience in order to avoid the increasing costs—i.e. he reduces stocks. And conversely. The extent to which he changes his stocks as a result of a given small change in the cost of holding stocks may appropriately be called the elasticity of his demand for the convenience of holding stocks. The more elastic his demand, the greater will be the effect on his operations of a given change in the cost of holding stocks.

Now if short-term interest rates rise the cost of holding stocks rises. Dealers therefore set about reducing their stocks, which they can only do by buying less rapidly than they are selling. They are swapping goods for cash—they are 'absorbing cash', which they use to accumulate a balance, or (more probably) to pay off debts. But what is the effect on producers of their reduced purchases? Producers find sales falling off. They cut prices and curtail output. The typically deflationary symptoms of falling prices and output have appeared.[1] As output is curtailed the volume of employment offered to factors of production declines, money incomes therefore contract. In the first instance, the contraction of money incomes is likely to consist solely of a decline in the *number* of money incomes arising—later cuts in *rates* of remuneration may follow. The contraction of money incomes leads to a decline in retail sales, leading to reduced purchases from dealers, who again reduce their purchases, and so forth. The whole movement, sometimes called the vicious circle of deflation, is intensified by a general tendency to 'hold off' the market once it is realized that prices are falling—people postpone purchases in the expectation of securing more favourable terms later. Producers being depressed are likely to embark less on replacement of and addition to plant, so that the capital goods trades also become involved.

Contrariwise, if short-term interest rates fall, the cost of holding stocks falls. Dealers therefore set about increasing their stocks, which they can only do by buying more rapidly than they are selling. Orders to manufacturers rise—output expands—employment increases—money incomes rise—retail sales rise—and so forth. The 'vicious circle of inflation' has appeared, with its conditions of rising prices and production.

The effects which follow a change in interest rates once entrepreneurs have been induced to change their behaviour are universally admitted. The peculiarity of the Hawtrey line of thought is its stress on the change in the cost of holding stocks as the mainspring of change. Now the forcefulness of this argument depends largely on two factors—first the proportion which interest charges bear to the total cost of holding stocks, and second what we have called above the elasticity of demand for the convenience of holding stocks. On the first point there are, of course, many other costs of holding stocks—warehousing, insurance against fire, theft, &c., allowance for depreciation of quality, and above all, the risk of the price of the commodity falling while it is being held. These various charges will vary very much from one commodity to another—a bulky commodity, one which is perishable, and the price of which is liable to unforeseen plunges, is obviously going to cost very much to hold in stock, and the interest charge is likely to be only a very small proportion of total costs.[1] A 20 per cent. rise in interest rates may well mean only a 2 per cent. rise in the total cost of holding the stocks of the commodity in question. Unless, therefore, the elasticity of the entrepreneurs' demand for the convenience of holding stocks is very high, a 20 per cent. rise—say from 5 to 6 per cent. —in interest rates will not stimulate much decrease of stocks. When it is considered that the vast majority of commodities are either bulky, or perishable, or fluctuating in price, or frequently all three, it will be realized that the initial effects of Bank Rate changes along this line are unlikely to be very great. The contrast between this conclusion and the apparent enormity of the upward and downward sweeps of trade conditions does not, however, dispose of the Hawtrey attack, for, as has been shown above, the process once initiated is cumulative, and substantial results may well follow from small beginnings.

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[1] How far prices fall and how far output falls depends upon the shape of producers' cost curves.

Unfortunately our knowledge of the size of stocks held from time to time is not sufficiently extensive to apply any decisive test of fact to this theory. But there is some indirect evidence which tells against it. This is the behaviour of bank Advances, Advances which are made largely for such purposes as the financing of stocks and goods in process. Both before and since the War these

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[1] Mr. Keynes has suggested that this is the general case. That Mr. Keynes's citation of Tooke on this was perhaps irrelevant does not of course invalidate his general argument (see Keynes, *Treatise on Money*, i. 195–6, and Hawtrey, *Art of Central Banking*, pp. 366–71).

Advances have been remarkably unresponsive to changes in their cost, and have in fact generally been one of the last of the various economic series to turn up and down as trade has turned up and down. It would, I believe, be possible to reconcile this phenomenon with the Hawtrey theory of Bank Rate; but it does provide some prima facie evidence against the view that changes in short-term rates are *directly* responsible for any substantial part of the effects which monetary action can produce. Let us therefore proceed to the alternative line of thought.

III. *Short-term Rates and Long-term Rates*

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More widely held than the Hawtrey view is the view of Mr. Keynes in the *Treatise on Money*, a view adopted by the Macmillan Committee of 1929–31, that the main effect of Bank Rate on the internal economic situation comes through the change in long-term rates which always seems to be associated with any pronounced change in short-term rates. For this explanation of how Bank Rate works, it is not really satisfactory simply to observe that changes in long-term rates are generally associated with changes in short-term rates: we must attempt to explain *why* a movement in short-term rates is bound to be followed by a movement, in the same direction, in long-term rates.

In the first place, let us remember that a rate of interest is a *price*, the price of money now in exchange for money at some later date. Every price has its own market. To find the connexion between two prices we must look for some connexion between the two markets, in this case the short-term market and the long-term market. (It is convenient for the moment to assume that the capital market is just divided in this simple way: the complications will be referred to presently.) What then are the points of contact between the short-term capital market and the long-term capital market?

When the official Bank Rate is changed, not only do we

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assume that the new rate is made 'effective' in the bill market, but also we can assume that certain other short-term rates are changed automatically. These are the Advances Rate of the Joint-Stock banks (the basic rate for overdraft and loan facilities) and the Town Deposit Rate (broadly the rate allowed on time deposits in the metropolitan area). How is a change in long-term rates to be produced? (1) In the first place, individuals and firms previously financing operations with money borrowed from the banks will now, the cost of borrowing having risen relatively to the yield in long-term securities, tend to sell their securities and use the proceeds to pay off the bank. There is a pressure to sell securities, which would not otherwise have appeared. (2) In the second place, individuals and firms holding surplus funds and about to invest them in securities will, now that the yield on time deposits is more attractive than it was, tend to keep back some of their funds in the form of deposits. The loss of liquidity in their view does not justify the now narrowed differential yield in favour of securities. Thus part of the normal demand for securities has disappeared. This decline in demand combines with the abnormal pressure to sell to depress the prices of securities. Prices going down means that the yield rises,[1] and, since the yield on old securities must be rivalled by any one wanting to borrow for a long term, the effective long-term rate of interest has risen.

So far we have considered the effects of the short-term interest rate changes on the operations of the *public* in the securities market. But at times the securities markets may be dominated by the operations of the commercial banks. In order to make the changed Bank Rate effective, the central bank will be bound to acquiesce in or to engineer a change in the supply of money. Assuming the cash ratio given, a higher Bank Rate implies some reduction (possibly quite small) in the total of bank cash, which the

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[1] e.g. when the price is 100, a 4 per cent. dividend means a yield of 4 per cent.; when the price falls to 80, the yield becomes 5 per cent.

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central bank may allow to result from a loss of gold, or may produce by selling securities. The immediate effect on the commercial banks will be a contraction of their more liquid assets, and if the movement is purely temporary this may be the end of the matter. But if the new conditions persist for any time, the banks will attempt to restore their customary proportion of liquid assets by parting with some of the less liquid assets. Of these latter there are Advances and Investments. The amount of Advances is not, however, generally subject to any appreciable control by the banker. The banker enforces certain canons of security and then lends all he can on those terms—the Advances being the most remunerative assets. The banks are thus reduced to parting with investments—some at least of which are likely to be long term. Their sales of gilt-edged securities may well be a very important factor in bringing about a rise in long-term interest rates. Conversely, when the central bank is pursuing a cheap money policy it enlarges, or acquiesces in the enlargement of, the cash basis. Sooner or later the banks, other things being equal,[1] will add to their Investments. Their buying strengthens the gilt-edged market, helping to cause the drop in long-term interest rates. An excellent example of this has been provided in the effects of the Cheap Money Policy of 1932–6. While in 1936 the Advances total was much the same as in 1932, the cash had expanded from about £180 millions to about £230 millions, while Investments rose from about £350 millions to nearly £650 millions—a very powerful factor in the gilt-edged market. In any prolonged change of Bank Rate, therefore, the operations of the commercial banks are likely to intensify the effects of the public's operations in the securities markets.

The mere fact, however, that funds are 'spilling over' from the short-term market to the long-term market does

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[1] Most significantly, the demand for Advances not showing any rapid expansion.

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not mean that the rates of interest in those two markets will become equal. All that happens is that a tendency appears for the two rates to move towards each other. How far that movement will go cannot be foreseen, as it depends essentially on the public's view of the future of interest rates. If the public thinks that the long-term rate is going to settle in a year or so at 5 per cent., then no matter how low short-term rates fall, the long-term rate will not fall far below 5 per cent. If it is expected that $2\frac{1}{2}$ per cent. Consols are going to settle before long at a price 50, then people will hold their money at short term, no matter how low the yield, rather than buy Consols now at a price much above 50. For it is better to take, say, 2 per cent. for a year or two and then buy Consols at 50, than to secure 4 per cent. by buying Consols immediately at 62. Looking at it another way, we can say that if the public believes that gilt-edged prices are going down over the next five years, enormous pressure of funds in the short-term market will cause gilt-edged prices now to move up only very few points—i.e. the long-term rate will go down very little.[1] Consequently it is of enormous importance, if the authorities want to pursue a 'Cheap Money Policy', that the public should be persuaded that the long-term rate is going to *settle down* at an appreciably lower level. From this point of view the economic significance of the propaganda with which the great War Loan Conversion of 1932 was carried through can scarcely be overrated. Once investors were persuaded that the halcyon days of 5 per cent. were over it was easy enough to push down long-term rates to an entirely new level. An opposite though smaller movement of the same kind appeared more recently. Early in 1937 there was a decided slump in gilt-edged prices. There was no good reason for this in the technical money-market situation. The immediate occasion of the fall was the realization

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[1] The reader should consult Harrod, *Trade Cycle*, pp. 121–5, on this point.

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that the Government intended to borrow enormous amounts for rearmament. The investing public and the Stock Exchange reacted to a quite unnecessary extent. But the mere fact that the City Editor of *The Times*, probably in fair representation of City opinion, wrote about the market settling down when 'a round three-and-a-half per cent.' (yield on Consols) was reached, meant that the long-term rate *had* to move to something like that extent, quite irrespective of the fact that there had been in that particular month or so no such revolution in the money-market or general economic situation as would justify an adjustment of stock prices from a 3 per cent. to a $3\frac{1}{2}$ per cent. basis.

The authorities, in attempting to operate on the long-term rate of interest, are thus peculiarly at the mercy of public opinion. Ten years ago economists were perhaps inclined to overrate the power of the monetary authorities over the long-term interest rate, and therefore the influence of banking policy on the general economic situation. The happy conditions of the Conversion operation in 1932 which enabled the authorities for once to bludgeon opinion must not blind us to the far more general case, when the public calls the tune. To maximize the effect in pushing up gilt-edged prices (pulling down the yield thereon), the banking policy of low short-term rates should be accompanied by propaganda such as we had in 1932.

Thus far we have been arguing as though long-term securities were homogeneous, and have accordingly assumed that a rise in gilt-edged prices means easier long-term borrowing for the entrepreneur. This assumption of simplicity must now be removed. Long-term securities are by no means homogeneous. There are gilt-edged securities, debentures, preference shares, and ordinary shares, all of which classes are sub-divisible into infinite grades. But at any given moment there will be a certain relationship between the prices of securities of various grades, a relationship which reflects the investing public's preference for one grade as compared with others. *Given* these preferences, a rise in the price of one class (e.g. home government bonds), resulting from a fall in short-term rates, must be followed by a rise in the prices (a fall in the yields) of all other grades. Provided the public has a definite preference for one particular distribution between the various classes of its assets, a shift in the price of one must be followed by a general shift in the whole range of prices. In just the same way, the connexion between short-term rates in general and long-term rates in general is based on the assumption that the public has a preference for one particular distribution of its assets and liabilities between short-term and long-term, and consequently a shift in the price of one, disturbing the relationship, must be followed by adjustment of the price of the other.

It is true that the effects of a rise in Bank Rate on, say, ordinary share prices may be entirely obscured by a simultaneous shift in the public's preferences in favour of ordinary shares—an actual rise in the latter following the rise in Bank rate. But if we want to trace the effect of any particular operation we must assume other things equal. If we wish to be precise, we should say that, as a result of the rise in Bank Rate, the prices of ordinary shares become lower *than they would otherwise have been.*[1]

IV. *Long-term Rates and Investments in Fixed Capital*

Just as movements in the short-term rate of interest may affect the willingness of entrepreneurs to hold stocks of semi-finished or finished goods, so movements in the long-term rate of interest may affect the willingness of entrepreneurs to hold fixed capital goods, such as

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[1] The reader may pursue the subject of the connexion between short-term and long-term rates further in Keynes, *Treatise on Money*, chap. xxxvii. On the behaviour of security prices see also Chapter XI below.

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factories, machines, &c. When a firm is thinking of embarking on some capital extension—whether it be the purchase of a new machine, the construction of a railway, the laying-out of an aerodrome, or the boring of a channel tunnel—its decision will depend on a number of factors, some of which are purely technical, while others may be strictly described as economic. The technical factors will include such points as the difference which the investment will make to the physical output of the firm, the rapidity with which the capital goods will need replacement, the ease with which the extension can be fitted into the general framework of the firm's activities, and so forth. The narrowly economic questions will be, what will be the price of the additional product? and at what rate of interest can the purchase money, for the capital good, be raised? Given all the technical factors, and given the entrepreneur's estimate of the receipts which will be realized from the use of the machine, whether or not the capital extension is embarked upon will depend upon the effective rate of interest at which loans for such purposes can be raised. The lower the rate of interest, the more likely is the entrepreneur to decide that the capital extension is worth undertaking. The higher the rate of interest the less attractive is any form of capital extension.

Two examples may help to make this clear. Suppose a printing-works to be contemplating the purchase of another machine of some kind. The machine is, we will suppose, priced by the machine-makers at £1,000. Then the firm calculates that the machine would last twenty years, and that after making allowances for repairs, depreciation, adjustment of labour costs, and so forth, but not allowing for the interest charges, the use of the machine would make a difference of £50 a year to the gross profits of the firm. Then, so long as the rate of interest, at which the firm can obtain £1,000 for twenty years, is below 5 per cent., a net profit is to be gained

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from the introduction of the machine (for 5 per cent. on £1,000 = £50). When the effective rate of interest is 5 per cent. the venture is only just worth while—the machine in then a 'marginal' investment. When the effective rate of interest is above 5 per cent., the firm would incur a loss if it acquired the machine in question. It should be noticed that the relevant receipts are the *extra* receipts which would result from the introduction of the machine—whether the firm is incurring a loss or a profit on its previously invested capital is irrelevant, though it may of course affect the rate of interest at which the firm can obtain the capital sum required. Or suppose a railway which is contemplating electrification of part or all of its system. The managers have to make a number of estimates of the results of electrification—changes in the volume of traffic, in labour costs, in the costs of electricity, and so forth. Then suppose that their guess is that an electrification plan, which would involve a capital expenditure of £20 millions, would increase the gross profits (or diminish the gross losses) of the company by a million pounds a year. Then, whether the railway was previously paying its way or not, the electrification scheme would appear worth adopting so long as the rate of interest at which the railway could obtain £20 millions was not above 5 per cent. Once the rate rises above 5 per cent., the venture becomes completely unattractive, unless anything happens to make the authorities revise their estimates of the results of electrification, or the costs of the electrification process itself fall.

Not only will these decisions have to be made about *new* capital development: precisely the same considerations must determine whether or not a firm should replace some plant which is wearing out. Reinvestment is only worth while if the firm could not do better for itself by investing the depreciation fund elsewhere.[1] As railway engines wear out, the railway company can always choose between replacing them and not replacing them, just as it can choose between electrifying and not electrifying its suburban steam lines.

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[1] In extreme cases the relevant cost of interest may be quite different. For the alternative to replacement of, say, a flour-mill, may be holding

These examples have been highly simplified in order to enforce the main point—that the effective rate of interest will be one of the crucial factors in coming to the decision whether or not to embark on capital development. But, lest we should overrate the efficacy of an interest-rate policy, it is important to emphasize the extent to which the entrepreneur's estimates are likely to be guess-work. In the railway electrification example given above, it was assumed that gross profits would, as a result of cheaper running, larger traffic, &c., immediately rise to a new level and stay there. In fact this is most unlikely to be the case. The growth in traffic is likely to be a gradual business, and whether the enterprise is or is not worth while will depend to an important extent on how rapidly the growth of traffic occurs. If the growth is very slow, that is equivalent, from the company's point of view, to extra capital outlay, even if the growth does eventually attain the expected maximum. The rapidity of growth is of course very much a matter for conjecture. The responsible people will have various earlier experiences to work on; but to some extent every new enterprise is unique, and that is especially true of such big capital innovations as these. Moreover, labour costs and price levels over a period of twenty years or more will be extremely conjectural. As compensation for all these uncertainties, which are involved in the decision to invest, the entrepreneurs will look for some chance of profit, and their stress on this profit margin will vary very much from time to time, according to whether they are inclined to look through rose-coloured spectacles or to take gloomy views of the future. Let us therefore beware of thinking

gilt-edged securities, while extending an established flour-mill may mean issuing new debenture stock for which the public has little taste.

that the rate of interest is the only factor which may vary: we shall return presently to the limitations to the efficacy of an interest rate policy.

Meanwhile, let us admit that the rate of interest is a relevant factor in taking the crucial decisions of whether or not to invest, and proceed to see what happens when, as a result of a fall in the effective rate of interest, other things remaining unchanged, entrepreneurs are stimulated to embark on more extensive schemes of capital development. They (or the entrepreneurs from whom they purchase the capital goods) have to purchase more raw material and engage more of the original factors of production—particularly labour. Demand for more raw materials simply passes on to other entrepreneurs—those producing raw materials—the onus of engaging more of the original factors of production. Momentarily the increased demand may be met by drawing on stocks; but very quickly increased production must appear. If there has been a large surplus of unemployed factors the increase in production in the capital goods trades can be effected perhaps without drawing much upon factors previously employed in consumption goods trades, and therefore without any necessity for a marked rise in rates of remuneration. If, on the other hand, the decision to invest more was made at a time when a state of 'full employment' was already approached, the capital goods trades would be able to increase their resources only by offering higher rates of remuneration. In either event, the next stage of the process is that the money incomes of people in the country will have increased—either because a greater number are employed at the old rates of remuneration, or because people formerly employed are receiving higher wages. (Normally both results will appear quickly; though the latter will be more prominent in the later stages of an inflationary movement.) This increase in income will be devoted partly to savings and partly to increased expenditure on consumption goods. To the extent that the latter phenomenon appears, entrepreneurs in the consumption goods trades will be induced to expand production, thus adding further to the money demand for the factors of production. Also the provision of both working-capital and fixed-capital for the consumption goods trades will, as a result of higher prices and a generally more prosperous atmosphere, appear more attractive than before, so that the circle will begin all over again, and fuel will be added to the fires of the inflationary, expansionist movement.[1]

The converse process may easily be deduced from the above. When interest rates rise, other things remaining the same, capital extensions become relatively less attractive, employment in the capital goods trades shrinks and total money income shrinks. Consumers adapt themselves to this shrinkage in money income partly by saving less (in individual cases often actually dissaving) and partly by cutting expenditure on current consumption. Production and employment in the consumption goods trades decline, capital investment in those trades becomes less attractive, the activity of the capital goods trades shrinks even farther, and so forth.

If the state of trade and prices were so responsive to rate of interest policies as would appear from the simplicity of our argument, monetary authorities and their governments would be very much happier. But bitter experience has shown that the state of trade, although it does appear to respond eventually to dear or cheap money, responds painfully slowly. At the beginning of

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[1] To the extent that people save part of their increased income they abstain from adding fuel to the fire. The upward movement actually proceeds to the point at which total money income has expanded so much that saving has increased sufficiently to equal the expanded amount of investment. On the Doctrines of the Multiplier and the Relation, which have necessarily been much telescoped here, see Keynes, *General Theory of Employment, Interest, and Money*; Harrod, *Trade Cycle*; and Clark, *National Income and Outlay* and (art. in *Economic Journal*, 1937) 'The National Income'. c/192

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the Great Depression of the nineteen-thirties, largely as a result of economists' stress on the importance of the rate of interest, certain countries (notably our own) did make a very serious attempt to stimulate trade by a cheap money policy. A peculiar conjunction of circumstances enabled Great Britain to reduce interest rates enormously in 1932. But it was a cruelly long time before recovery was decided enough to be universally acclaimed. What are the limitations to a policy of stimulating (or retarding) trade by low (or high) interest rates?

The reader who has noted the reservations introduced from time to time in the above argument will already know much of the answer to this question. We may think of the efficacy of a long-term interest policy in the same terms in which we thought of the efficacy (along the Hawtrey lines) of a short-term interest policy. The efficacy of the policy depends on the *elasticity of demand for capital*. The more elastic the demand—i.e. the more responsive business men are to a change in the rate of interest—the more quickly effective will the policy be. What are the factors which tend to limit the elasticity of the demand for capital goods at any given time? In the first place there is the highly conjectural nature of many of the estimates which entrepreneurs have to make before coming to their decisions. So wide is the margin of error that a fractional change in the rate of interest may appear to the entrepreneur to make relatively little difference to the prospects. Far more important is likely to be his general frame of mind about the future. In a depression things look so gloomy that no conceivable drop in the rate of interest is likely to induce him to embark upon any but the most blatantly desirable ventures. In a boom things look so rosy that a fractional rise in the rate of interest which he has to pay for his capital is unlikely to deter him from some investment failure of which seems inconceivable. Accordingly at all times of extreme trade conditions the business man's demand for capital may be

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somewhat inelastic—in a depression it can hardly be stimulated, in a boom it can hardly be checked. And unfortunately the same is all too true of the very important part of capital investment which is nowadays under government control of one sort or another. Both central and local government authorities are directly responsible for enormous amounts of capital development—road construction, housing, schools, sanatoria, &c.—and they can influence much more—railway development for example—by giving or not giving guarantees to lenders to such semi-public bodies. The rate of interest has certainly a part to play in the schemes for capital expenditure by governmental bodies. A town council considering the construction of public baths, for example, will find that the higher the rate of interest, the higher the rate in the pound which is necessary for financing the service of the public baths loan. But experience, decade after decade, has shown that authorities are less influenced by a slight difference in the rate poundage produced by a change in the rate of interest, than by whether or not they feel that the town is prosperous and 'can afford' the public works. Accordingly, no matter how the rate of interest is behaving, governmental investment tends to be concentrated in periods of high private investment, thus exaggerating the effects of an expansionist movement once started.

It will be realized that once an inflationary movement or a deflationary movement of this sort is well under way it is difficult for such a circumscribed weapon as Bank Rate to reverse it without some help from extraneous factors. But to the extent that Bank Rate can operate on the general level of prices, it is apparent that it can only do so by throwing the capital market into disequilibrium and creating for a time a thoroughly disturbed state of trade in the country. When we are considering whether we wish to rely on Bank Rate as a means of producing a change in the price-and-money-income structure, it is worth remembering that to the extent that it does work

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at all it works in an exceedingly roundabout and disturbing way. If we want to deflate our money-income structure by high Bank Rate, we have to produce a depression by damping down capital development, throwing people out of work, and upsetting the State's finances, in the hope that one day the pressure of unemployment will lead to lower wage-rates—*and other money incomes*—becoming the rule. And conversely. It is, I think, worth recording that I know of no case in monetary history of a dear money policy alone producing a general deflation of money incomes. A widespread inflation of money incomes may be easier to produce, but it is certain to be marred by injustices which leave behind all sorts of minor disequilibria. The Macmillan Committee once described the Bank Rate as 'a most delicate and beautiful instrument'. Whether it is a 'delicate and beautiful instrument' for any other purpose we shall perhaps see later: certainly for producing a general revision of money incomes it is a halting, clumsy, indeed a brutal, instrument.

Some of the principal repercussions of a change in Bank Rate are felt in the foreign exchange markets. Analysis and discussion of these we must leave to the chapter on the banking system in relation to the external situation.

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CHAPTER VII

THE BANKING SYSTEM AND THE FOREIGN EXCHANGES

I. *Internal Prices, the Balance of Payments, and Foreign Exchange Rates*[1]

For a number of reasons, some good and some bad, central banking policy has been, and still is, very much concerned with influencing the value of a country's currency in terms of other countries' currencies. The prices of currencies in terms of each other are called 'foreign exchange rates' or sometimes simply 'the foreign exchanges'. Just as one can use pounds sterling to buy tea so one can use pounds sterling to buy French francs. The business of exchanging currencies is the work of the foreign exchange markets. These markets consist of a number of dealers (in England mainly the great joint-stock banks) in the great financial centres of the world, connected with each other by a network of telephone wires. Their business arises from ordinary traders wanting to buy and sell foreign currencies in order to settle debts arising from international trade and from others who have debts to settle in other countries. The demand for and supply of the currency of a given country in the foreign exchange market depends directly on the magnitudes of debts to be settled between people in that country and people in other countries.

These debts arise from the import and export of goods, the performance of services by people of one country for people of another country, and the import and export of 'securities'. The first and second types of transaction (in goods and services) are called 'current' or 'income' transactions; and the third type is called a 'capital' transaction. The behaviour of the foreign exchanges depends upon current and capital transactions together.

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[1] For a full statement of the theory of international prices readers should refer to recent standard works on International Trade (e.g. Whale, *International Trade*; Ohlin, *Interregional and International Trade*; Harrod, *International Economics*; or Haberler, *International Trade*).

Throughout this chapter 'foreign countries' must be interpreted to include all parts of the Empire not included in the English fiscal area.

When an English trader imports goods from France he incurs a debt to the French exporter. This debt may be settled directly in French francs: in which case the Englishman has to buy francs, selling sterling. Or the debt may be settled by the Englishman paying sterling to the French exporter, in which case the French exporter proceeds to sell, through the foreign exchange market, the sterling he has acquired, securing in exchange francs which are more useful to him. Which method is used does not affect the nature of the work brought to the foreign exchange market: there is an offer of sterling, a demand for francs. Conversely export of goods from England to France leads to a demand for sterling, a supply of francs.

When an Englishman goes to Switzerland for a holiday he sells sterling in exchange for the Swiss francs with which to pay his Swiss hotel bills, railway fares, &c. If the Swiss allow him to pay in sterling that shifts the business of exchanging the currencies but the essence remains the same—an offer of sterling, a demand for Swiss francs. An American tourist in England creates a demand for sterling, offering dollars. Tourist traffic has precisely the same effect as trade in goods—foreign tourist expenditure in England is a purchase by foreigners of English services and is often called an 'invisible export'.

Capital transactions work in the same way. Lending to foreigners involves buying, with the home currency, currency of the borrower's country. Securities—bonds, shares, or mere promises to repay—come to the lender. The imported securities have to be paid for just as do imported goods.[1] When the loan is repaid the securities may be imagined to travel back, and the borrower enters the foreign exchange market to demand the lender's currency in exchange for his supply of his own currency. English lending abroad in the nineteenth century involved enormous demands for foreign currencies in exchange for sterling. Repayment of some of these loans now is a source of demand for sterling, foreign currencies being offered. Payments of interest on outstanding loans and dividends on shares held in countries other than that in which a company operates also occasion transactions in the foreign exchange market, and may conveniently be regarded as payment for services rendered by the lenders in leaving their capital unwithdrawn for another year. Interest and dividend *receipts*, like the receipt of payments for exported goods, occasion a demand in the foreign exchange market for the currency of the recipient country, the debtor's currency being offered in exchange.

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[1] Students sometimes find the placing of capital movements in the balance of payments confusing. Lending money to foreigners is often (and with reason) described as 'exporting capital', and the student is apt to put

The earnings of shipping companies and their employees, after allowing for expenditure in foreign countries, must also be reckoned as receipts of the country for services rendered. Imports are valued when they arrive in the country and exports when they leave the country. English importers have however only to pay to the foreign exporter and his transport agents sufficient foreign currency to pay for the goods at the foreign port—the rest of the value, as entered by the Customs officers, is paid to the shippers. If the shippers are English, then the value of imports over-estimates the demand, originating in import of goods, for foreign currencies, and the value of the English shipping services must be credited to the other side of the account. Exports are valued at the exporting port, and if the foreigner has to pay, in addition, some charges for English shipping services, that constitutes an additional demand for English currency beyond

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such an item on the same side as export of goods. The solution of the difficulty is to be found, I believe, in picturing the capital transaction as an import of securities. Securities have to be paid for just as do imported goods.

that accounted for by the f.o.b. value of the exported goods. The net value of all the shipping services of English nationals must be reckoned as reducing the English demand for foreign currencies, or, what comes to the same thing, increasing the foreign demand for English currency.

There are a number of other services payment for which leads to foreign exchange transactions—services of insurance companies, acceptance houses, film companies, employees of governments, and traders residing in other countries, and so forth. Any payment for which the payer's resources consist of one currency and the payee's requirements are in another currency lead to foreign exchange transactions. But the most important items have been specifically referred to above.

In the light of this analysis we can now see that the demand for English currency is greater, the greater is the value of English exports of goods services, &c., and the greater is the sum of capital payments to English people. The supply of English currency, offered by foreigners wanting their own currencies, is greater, the greater is the value of goods and services imported into England, and the greater are the capital sums being remitted by Englishmen to foreigners. The demand for and supply of a currency depends on the behaviour of the various items of the balance of payments which we have just been discussing. On what do exports and imports, both visible and invisible, and international capital movements depend? Exports and imports of goods and services depend upon world tastes (the basis of demand for goods and services of a country), on the productive equipments and natural resources of different countries, on the levels of money incomes in different countries, and on the foreign exchange rates. The first two of these determinants cannot be discussed here: that is the exclusive province of books on international trade. We here assume tastes and productive equipment as given. Then a

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country can export more goods and sell more services to foreigners the lower is its level of prices (given productive equipment, the costs level is given by the money-incomes level; the whole can, for the sake of brevity, be described as the price level). The higher its price level the more will its citizens be able to buy foreign goods. (Alternatively we can say that the higher the home price level the more attractively priced will foreign goods appear as compared with home-produced goods.) But the attractiveness of English prices to foreigners, and of foreign prices to Englishmen, depends not only on the level of prices at home and abroad, but also on the foreign exchange rates. The higher the price of dollars in terms of sterling, the lower will English prices appear to Americans, and the higher will American prices appear to Englishmen. At \$5 = £1, anything priced at \$5 in America is cheaper to the Englishman than anything priced at 30*s*. at home. But when the exchange rate is \$2·50 = £1, the 30*s*. article is the cheaper, to Englishmen and Americans alike.

The balance on current account therefore depends upon relative price levels and the foreign exchange rates. The balance on capital account depends on tastes, productive equipment, &c., again (but we are taking these as given), and on relative interest rates. The lower the rate of interest at home relative to rates in other countries, the more will the home country be lending to foreigners, and the smaller will be the contrary movement. And conversely.

The entire balance of payments which gives us the demand for and supply of a currency in the foreign exchange market thus depends (*assuming tastes and technical factors given*) on three general factors—relative price levels, foreign exchange rates, and relative interest rates.[1]

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[1] Relative interest rates being of course viewed in the light of estimates of the security of various currencies.

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The fixing of the foreign exchange rates is the business of the foreign exchange market. But price levels and interest rates in particular countries are beyond the control of the foreign exchange market. When, given the state of price levels and interest rates, the foreign exchange rate is fixed, the balance of payments is fixed. How will the market decide what rate to fix? Its decision is determined by its attempt to 'clear the market'. Dealers want to satisfy all buyers of any currency and all sellers of any currency. They must therefore fix that rate at which the 'balance of payments' will balance. Once given the relative price levels and interest rates, the foreign exchange rates are determined according to the simple principles of market equilibrium.

Once a foreign exchange rate—say the price of pounds sterling in terms of dollars—is fixed, any disturbance of price levels or interest rates will disturb the market. A fall in the English price level, for instance, will tend to increase the demand for sterling (by making English goods cheaper to Americans, while American goods become dearer to Englishmen with their lower money incomes). The increased demand for sterling will (on ordinary supply-and-demand lines) tend to raise the price of sterling. A lower price level (and similarly a higher interest rate) tends to turn the balance of payments 'in favour of' the country (i.e. strengthens the demand for its currency), and this tends to raise the foreign price of its currency. And vice versa. If, therefore, the banking authorities wish to influence the foreign exchange rates,[1] they must do it by influencing the price level and the rate of interest. To this end a central bank may use its Bank Rate weapon, with the effects on the domestic situation which we have discussed in Chapter VI. The working of

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[1] The Government can, of course, *control* the foreign exchange rate by restricting the operations of the foreign exchange market. The 1930's have seen widespread use of these 'Foreign Exchange Restrictions', the general principle of which is to prevent the potential demand for foreign currency from being fully exercised.

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Bank Rate policy on the foreign exchange situation is examined in some detail in Section III of this chapter. Before that we shall glance for a moment at the objects which a central bank commonly has in mind when it seeks to influence the behaviour of the foreign exchanges.

II. *Introduction to the Gold Standard*[1]

The history of the gold standard is a long and curious one, and it is difficult to understand the hold which it has on the modern world without realizing what it has meant in the past. But we are concerned here not with its power to attract support in the modern world, but simply with its mechanism and with its advantages and disadvantages nowadays.

The gold standard is a device—or series of devices—for maintaining equality between a unit of currency and the value of a fixed weight of gold. By its operation the pound sterling, for example, may be maintained as the equivalent of 113 grains of fine gold. Nowadays this connexion between the currency and gold is of little *direct* importance. What is of importance is its implication when other currencies are similarly linked to gold. For if a pound sterling is maintained equivalent to 113 grains of gold, and $5 are also maintained equivalent to 113 grains of gold, then one pound sterling is equivalent to $5—the exchange rate between dollars and sterling is fixed by the operation of the gold standard. The main attraction of a gold standard nowadays depends upon its being adopted by other important countries, so that foreign exchange rates are narrowly tied. We shall therefore concern ourselves mainly with the aspects of a gold standard as an *international* standard rather than as a *gold* standard.

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[1] For more detailed discussion of the gold standard the reader should consult Gregory, *The Gold Standard and its Future* (esp. chap. i); Keynes, *Treatise on Money* (esp. chaps. xxxv and xxxvi); Robbins, *The Great Depression* (chap. viii); Whale, *International Trade*, and 'The Working of the Pre-War Gold Standard' (in *Economica*, 1937, p. 18); and Whittlesey, *International Monetary Issues*.

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The maintenance of the gold standard depends superficially on two technical conditions. First there must be untrammelled convertibility, either direct or indirect, of gold into currency and currency into gold at a fixed price. This convertibility is generally maintained at the central bank, though a government department, such as the Treasury in the United States, may convert gold into certificates which find their way into the central bank. The convertibility, if direct, is into gold bullion (or coin of guaranteed gold content), and if indirect can be into claims which are readily convertible into gold at fixed rates somewhere else. If the convertibility is indirect the system is called the Gold Exchange System. The second technical condition is that there must be free trade in gold—free trade in *both* directions. There must be no embargo or taxes on either the import or the export of gold.

If these two technical conditions are fulfilled in any two countries the exchange rate between the currencies of those countries is fixed within very narrow limits. Suppose the pound to be convertible into 113 grains of gold in London, and that $5 are convertible into 113 grains of gold in New York, and that there is no artificial impediment to the movement of gold from America to England and vice versa. Then the exchange rate between the two could move only slightly away from $5 = £1. If at that rate there was an unsatisfied demand for dollars the price of the dollar would tend to rise towards $4·95 = £1. When this occurred dollars would be obtained otherwise than through the foreign exchange market. £1 million might be sold at the English central bank in exchange for 113 million grains of gold, the gold shipped across the Atlantic and converted in New York into dollars at the fixed rate—securing $5,000,000. The margin between that amount and the $4,950,000 which could be secured by direct purchase of dollars in the foreign exchange market would have to cover the expenses of taking the

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gold across the Atlantic, &c. Those expenses would determine how far the foreign exchange rates could move from the 'par of exchange' (\$5 = £1) before gold was moved. The rate in the market could move to, say, \$4·95 = £1 before it became profitable to take gold from London to New York; that rate would be called the 'gold export point' for London, the 'gold import point' for New York. Similarly the rate could move to, say, \$5·05 = £1 before it became profitable to exchange dollars for pounds indirectly, by shipping gold from New York to London. That would be the gold export point for New York, the gold import point for London. As long as the technical conditions of the gold standard were maintained in both centres the exchange rate could not move outside the range bounded by those two 'gold points' or 'specie points'. The main attraction of the gold standard nowadays is that it does restrict the foreign exchange rates within these very narrow limits.

These two technical conditions imply a third—that there shall always be, in the hands of the monetary authorities, a reserve of gold or claims to gold adequate to meet all likely demands. For unless there is an adequate reserve, convertibility of the currency into gold cannot be guaranteed. Reverting to our analysis of the determination of the foreign exchange rates we may say that if the exchange rate which balances the balance of payments (excluding gold movements) is within the range between the gold points, all will be well—there will be no demand for gold on either side. Hence the advantage, when going on the gold standard, of choosing a value for gold which will dictate a rate of exchange which correctly reflects relative price levels and the fundamental international trading conditions. But if conditions change so that the total of imports (visible and invisible) and capital outflow exceeds the items on the other side, then the exchange rates will be forced down to the gold export points, and gold will flow

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out *to make the balance of payments balance*. If this is only temporary the central bank can look on with equanimity. It must have a gold reserve adequate to meet such temporary drains; but it need not worry about them. But if the drain of gold should continue, the gold reserve will ultimately be exhausted. To stop this the central bank must take action to influence internal prices and interest rates so that the balance of payments can once more be balanced without recourse to gold exports. It does this by raising Bank Rate, with the effects to be analysed in the next section.

If, on the other hand, the structure of prices and interest rates leads to a surplus of exports, capital inflow, &c., over imports, &c., the foreign exchange rate moves up to gold import point and gold streams in. If the movement is temporary, well and good: the gold acquired will be useful for meeting a temporary drain when conditions are reversed. But if it goes on the central bank can afford to indulge in a cheap-money policy—though there is little to force it to do so except consideration for other countries' gold reserves. This ought in fact to be a weighty argument if the country concerned much desires the gold standard for the sake of stable foreign exchange rates. The gold standard brings stable foreign exchange rates only if other countries can also maintain the gold standard: every gold-standard country has therefore some interest in the maintenance of the gold reserves of other gold-standard countries.

Once this connexion between gold flows and internal credit policy is grasped the peculiar arrangements by which the note-issue is tied to the gold reserve of a country look very much more like good sense. For, whatever the particular system, the general principle of these note-issue restrictions is that a loss of gold curtails the note-issue and vice versa. We have already seen how the maximum note-issue sets a limit to the amount of bank money which the central bank can force on the country or tolerate.

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Reducing the note-issue maximum when gold flows out has the effect therefore of reducing the supply of bank money. The reduction is affected partly by the passive operation of the banking system: gold-exporters exchange their bank deposits for deposits at the Bank of England, and those deposits for gold. So far the reduction in bank deposits is equal to the efflux of gold, and there has been no disturbance of bankers' earning assets. But a further reduction by active operation of the banking system follows: for gold is exchangeable not merely for bank deposits, but also for that peculiar type of money called 'cash'. The cash ratio of the banking system is reduced by a withdrawal of cash equal to the cancellation of deposits. In accordance with their liquidity rules the banks set about reducing their earning assets. This action forces a further fall in deposits and a rise of interest rates. A deflationist movement has set in—which is precisely what is dictated by the curtailment of the central bank's powers of note-issue. If the bank's note-issue were not so curtailed it could insulate the banking system from the effects of the gold losses by substituting other assets for the departed gold. The object of simple tying of the note-issue to gold is to make such insulatory action difficult for the central bank.

Conversely an influx of gold sets in motion a multiple expansion of the supply of bank deposits and allows the central bank to provide the additional notes which may then be required. The increase in the maximum of the note-issue is, in a sense, designed to point out to the central bank that an expansion of credit is appropriate. Tying the note-issue to gold was in fact designed to oblige the central bank to behave in the way appropriate to the maintenance of the gold standard. That its task is not so simple as this theory of note-issue regulation supposes we shall see presently.

It is important to recognize that whether or not the central bank changes its official Bank Rate immediately on a gold efflux or influx does not alter the fundamental movement. A gold influx, by adding to the cash reserves of the commercial banks, makes for lower rates in the market at once. Unless the central bank is going to offset the influx it might as well recognize the change in market rates and, wishing to maintain contact with the market, lower its official rate forthwith. Central banks do nowadays, in recognition of the slowness with which cheaper money will act on the situation, generally move their official rates down quickly—giving market rates the lead rather than vice versa.[1] An efflux of gold leaves the central bank with less choice: for the commercial banks can profitably draw more cash from the central bank as soon as the loss of cash occasioned by the gold efflux has forced market rates above Bank Rate. If the central bank is to force any appreciable contraction of credit it must raise its official Bank Rate forthwith. In practice, again, it is nowadays inclined to lead rather than to follow market movements.

Central banks are encouraged to use their Bank Rate weapon quickly when they are obliged (by note-issue regulations) or choose to react positively to a gold efflux or influx, by certain effects which Bank Rate movements have in providing immediate palliatives for the situation, quite apart from the more deep-seated effects on the balance of payments. Indeed it may even be just to remark that the use of Bank Rate for controlling the external situation was originally directed to producing palliatives rather than cures.

Again, Bank Rate policy as a controller of the external situation was originally designed to support the gold standard; but the Bank Rate weapon (always of course sanctioned by the central bank's position as a source of cash) is equally the only important weapon which the central bank can use to influence the foreign exchanges when the country is not on the gold standard. The mere fact that a gold standard is not being maintained does not

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[1] Excellent examples of this occurred in the autumn of 1929.

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mean that the central bank can or will ignore the effects of its actions on the foreign exchanges. The substantial advantages of the gold standard can be secured in part, and without some of the disadvantages of the gold standard, by reasonable but not rigid stability of the foreign exchanges. All central banks are consequently bound, even if they are entirely free from gold-standard laws or note-issue restrictions, to pay some attention to foreign exchanges. We shall, in our analysis of the effects of Bank Rate policy on the external situation, have to bear in mind the case of an independent monetary system as well as a gold standard, though we shall stress rather the latter case. The fundamental difference between them is this: in the gold-standard case a favourable turn in the balance of payments has only a limited effect on the foreign exchange rate, gold flowing in as soon as gold import point is reached; whereas the price of an independent currency in the foreign exchange market will continue its rise unchecked. Contrariwise, the fall of a gold-standard currency is, and that of an independent currency is not, checked by an efflux of gold.[1] In the gold-standard case, central-bank action is designed proximately to produce or to check gold movements: in the other case to produce or to check movements in the foreign exchange rates. Its weapon is the same in either case. To its efficacy we must now pass. Throughout the next section the analysis, in Chapter VI, of the effects of Bank Rate on the internal situation must be borne in mind.

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[1] It has sometimes been supposed that the effects of Bank Rate changes when currencies are independent are limited to automatic adjustments in the forward exchange rates. But Mr. Einzig, the leading authority on this subject, has shown (in his *Theory of Forward Exchange*) that there are reasons in the technical limitations of the arbitrage market for its not occurring automatically: in which case the effect of Bank Rate changes is not so very different under the two systems. When the system is not one of purely independent currencies, but is one such as we have to-day, which closely approaches gold-standard conditions, the similarity between the effects of Bank Rate changes now and under a gold standard is even greater.

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III. *Bank Rate and the External Situation*

A change in Bank Rate influences the foreign exchange markets through three channels: (1) the short-term money market, (2) the long-term capital market, and (3) the balance of trade.

The short-term money market is affected directly by a differential change in the Bank Rate of one country. Short-term rates in that country having risen relatively to those prevailing in other countries, that country is dearer for borrowers—whether they are people seeking to discount bills or others—and more profitable for lenders. Borrowers accordingly tend to go elsewhere while lenders tend to flock to the dear-money centre. There is a movement of funds towards that centre resulting, in the gold-standard case, in an influx of gold, or the cessation of an efflux.[1] If the currencies are independent the movement of funds raises the foreign exchange value of the home currency.

The long-term market is affected in the same way as and when the change in short-term rates spreads to the long-term market. Thanks to the traditional position of some centres as lenders at long term and others as borrowers, the effect in the long-term market is likely to be confined, so far as new loans are concerned, to changes in the flow of one-way traffic. For example, in pre-war days one of the effects of dear money in London was to slacken the rate at which foreign and colonial loans were floated in the London market. There was no tendency for English Government bonds to be issued in Melbourne! But nowadays, with the increase in the number of 'international securities', differential movements in long-term rates can easily lead to a diversion of either sales or purchases of old international securities from one stock market to another—at least between such important centres as London, New York, and Paris. These effects appear only as the long-term rate moves—which may be far behind Bank Rate changes—and then they are limited very much by the exchange risks' being infinitely more serious than when short-term funds only are being moved.[1]

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[1] A common fallacy is that a high Bank Rate, by attracting gold, causes rising prices. The fallacy lies in the identification of the gold stock and the supply of money. Given conditions of demand for money, the *total* supply of money must be restricted in order to make dear money effective. To the extent that the gold stock increases, the central bank must choose between decreasing its other assets and suspending dear money.

The third channel through which Bank Rate affects the foreign exchange market is the balance of trade. The phrase 'balance of trade' must be interpreted here (as elsewhere in the book) to include invisible as well as visible items on current account (capital transactions being excluded). The balance of trade is affected by the change in Bank Rate as and when the latter begins to have effect on the level of prices and aggregate money income of the country. The initial effect of the changed internal situation will be (in the case of dearer money) a decline in imports of raw materials and of capital goods. Later, as money incomes fall, the contraction is likely to spread to foodstuffs and other imported consumption goods. The fall of prices in the country is likely to lead to an increase in its exports, though this may be hindered, if the country is a really important one in the world economy, by its deflationary policy producing trade depression in the outside world as well as within its own borders. When (if ever) the general scale of money incomes (and therefore of costs) has fallen, the lower costs of producing exports will have established exports on a new high level, and imports will be on a new low level. The eventual effects of dear money on the balance of trade are therefore to

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[1] I do not mean to reject the view (which can now, I believe, be called 'orthodox') that the effect of capital movements on the exchanges is modified by the direct effect of the redistribution of purchasing power on the course of international trade. (For this point see Robertson, 'A Note on the Transfer Problem', in Pigou and Robertson, *Economic Essays and Addresses*, p. 170.) But I am considering here only immediate effects, and in the short period the general probability that the lender's currency will be subject to greater pressure is infinitely increased.

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stimulate exports and curtail imports; but these effects only appear as the internal situation is controlled by the Bank Rate policy, and much else is likely to happen before things settle down to a new equilibrium.

Quick effects on the balance of international payments (a phrase which includes not only the balance of current trade but also the long- and short-term capital movements) are likely to be restricted on the whole to international capital movements and particularly to movements of short-term funds. For producing movements of these short-term funds Bank Rate may be indeed 'a beautiful instrument'; but we must realize that its efficacy in overcoming temporarily a disturbance in the balance of payments by regulating the flow of short-term funds depends upon two essential conditions: the existence of a good market for short-term funds in the centres affected, and confidence in the future of the foreign exchange value of the currency which people are induced to acquire. These two conditions, especially the former, are apt to be overlooked even by monetary authorities.

The condition that there should be a good market in short-term funds means that there must be, in the centre to which funds are to be sent, channels for the loan of short money and borrowers, or guarantors, whose credit standing is recognized internationally. This condition is most clearly met in the London bill market, where the guarantors, in the case of trade bills, are the Accepting Houses, whose international position is beyond question, or, in the case of Treasury Bills, the borrower is the British Government. The position of the other great financial centres—New York, Paris, Amsterdam, Berlin—is not radically dissimilar. More commonly, in great centres and small alike, the borrowers whose credit-worthiness secures international recognition are the leading commercial banks with whom the money may be deposited. It is important to realize here that the essential condition is not that the bank (borrowing) must be 'sound' but that it must be internationally recognized as such. The banks of Latvia and San Salvador may be perfectly good, well run, and paying institutions, but, unless foreigners have such confidence in them that they are ready to deposit funds with them when a rate differential appears or widens, Bank Rate is ineffective in regulating the flow of short-term funds. Of a number of short-term interest rates in a centre, which particular rate is regulator of the international flow of funds depends of course on the channels for lending and borrowing which are most attractive to international dealers. In London the main bill rates are most important in this respect; but in less developed centres the deposit rate allowed by the commercial banks is frequently the decisive rate.

The second condition is that there should be confidence in the future foreign exchange value of the currency in which loans are to be made. A differential of 1 or 2 per cent. per annum on a three months' loan does not attract lenders if they fear that within the three months the currency may have lost 20 per cent. of its value in terms of the lenders' home currency. Whether their fears are rational or not does not, at a given moment, matter. The fact that they have fears is enough to stultify the action of the Bank Rate weapon. To this limitation the Bank Rate policy of even the most highly developed centres is subject. It is particularly important when centres are not on the gold standard, for then the risks of great movements in the foreign exchanges are patent. Accordingly the effect of Bank Rate in regulating international capital movements is likely to be far weaker when currencies are independent than when they are on the gold standard. But the limitation applies to the efficacy of Bank Rate even in great centres on the gold standard. Of the importance of this argument there has been ample illustration, under both gold standard and independent currencies, in the last fifteen years. In the summer of 1931, when there was a prolonged 'flight from sterling' (withdrawal of funds from

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London), London short-term rates rose sharply, far above the levels of New York and Paris. But money still streamed out. Foreigners held the opinion that the British cost level was too high and that the Budget position was bad, and that sooner or later—and probably sooner rather than later—sterling might fall. It did not matter whether they thought it *might* fall or it *must* fall—the existence of the risk was sufficient to deter them from securing the 1 or 2 per cent. extra on the loan transaction. In December of that same year, when Bank Rate already stood at the very high level of 6 per cent., and the dollar price of sterling was falling with disturbing rapidity, some economists were suggesting that Bank Rate should be raised drastically 'to stop the rot'. What good this would have done it is difficult to see. Foreigners who had confidence enough in the future to leave their money in London had already a quite appreciable interest margin in their favour to encourage them to maintain their London funds. Those who feared that the pound was going down much farther would not have thought 3 or 4 per cent. more per annum an adequate compensation for risks. So far as deflation of the internal price-and-income structure was concerned, a 10 per cent. Bank Rate could have worked no more rapidly than the 6 per cent. Rate together with the deflationary public finance was already working. What would certainly have followed from a rise in Bank Rate would have been more expensive service of the National Debt, so intensifying the difficulties of balancing the Budget (on which, incidentally, foreign opinion so largely turned). And it is quite possible that a sharp rise in Bank Rate from its already high level would have given foreigners the idea that the British situation was out of hand and that the authorities were panicky. The damaging effects even on internal confidence of a rise in Bank Rate to panic levels had been clearly demonstrated in August 1914. There is a point beyond which further rises in Bank Rate can do nothing but harm.

Paris has provided numerous examples of this limitation of the Bank Rate weapon. At the time of the Great Bear Drive, in the winter of 1923–4, the authorities did at first attempt to stop the fall in the franc by raising the official Bank Rate. In two successive weeks this was done. On the first occasion, the rate of exchange improved slightly for about three days and then slid back beyond its former low level. The following week, when Bank Rate was raised again, the only apparent effect was an acceleration of the decline in the franc. Again, during those four years 1933–6, when France was on the gold standard but a fresh devaluation was inevitable, the Bank of France several times attempted to fortify the franc by raising Bank Rate. As in Britain in 1931 so in France in 1933–6 the price level was too high and there was a serious Budget deficit—the most important difference between the two cases being that in France the Budget deficit was far more serious and far more difficult to eradicate. What was the effect of raising the Bank Rate? Given the general political and social conditions, and the limitations, in the most favourable circumstances, of the Bank Rate weapon, any effect higher Bank Rate might have in deflating internal prices and money incomes was bound to be a painfully slow business. On the other hand, there was immediate effect on the price which the French Government had to pay on its substantial and growing short-term debt. The Budget deficit was thereby aggravated, and it appeared all too probable that long before high Bank Rate had exercised any serious deflationary effect, the enhanced Budget deficit would have driven the authorities into the inflationary state which the Frenchman dreaded and which the foreigner would view as irreconcilable with the maintenance of the gold parity. Little wonder then that when we read in the papers that Paris had put up Bank Rate again we took it as a signal that devaluation was one step nearer.

It is sometimes supposed that, now that forward

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exchange markets are developed, a higher Bank Rate can always attract funds to a centre where there are lending facilities, because the lender can protect himself in the forward exchange market against the exchange risk. This view overlooks the fact that one side of the forward market is practically certain to be very limited—and the more so the more prevalent is one particular view about the future of a currency. If practically every one expects the currency to fall, it will be exceedingly difficult to secure cover. Accordingly there appear those extreme discounts and premiums which we have seen so many times in the forward markets for 'Gold Bloc' currencies in recent years. These substantial premiums and discounts can easily outweigh the widest conceivable differences in interest rates.

Sheer experience has also taught us that it is not true that a change in relative interest rates (given the state of confidence) produces automatically the appropriate change in forward exchange rates, so that there is no profit in moving funds. Apparently the arbitrage market is far too limited for that, and a change in relative interest rates produces *some* change in forward rates, *some* shifting of funds, and accordingly *some* change in spot rates.[1]

Even in this field of regulating the flow of short-term funds, therefore, Bank Rate, though perhaps a 'delicate and beautiful instrument', cannot work under all circumstances. It is true that a prominent place in our armoury should be given to a weapon which is so well adapted for dealing with 'normal conditions'; but let us not try to use it for every conceivable purpose. And if we can find in central banks' operations in the forward exchange market[2] a useful supplement to Bank Rate policy, so much the better.

Now that we have supplemented Chapter VI by examin-

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[1] On this rather difficult matter see Einzig, *Theory of Forward Exchange*.

[2] Ibid., Part VI.

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ing the external effects of Bank Rate changes, it is perhaps worth summarizing our conclusions about the efficacy of this classic weapon. Bank Rate may be used by central banks for operating on both the internal situation and on the external situation. Internally its main effects are probably those indirect ones which result from its disturbance of the flow of capital construction and replacement. Its eventual potency may be substantial but it is certainly apt to be extremely slow to show results, and economists are nowadays turning more and more to the possibility of influencing the internal economic situation more directly, by some such device as the conscious control of governmental investment. Externally it has the indirect effect of influencing the relation between incomes and costs at home and abroad (and therefore affects the balance of trade). More quickly—and perhaps with marked efficiency—it can regulate the international flow of capital, so enabling a country to overcome a temporary disequilibrium in the balance of trade without upsetting its entire economic structure. *Given* the conditions we have detailed above it has these very considerable uses. It worked to greatest satisfaction perhaps in London in the last few years before 1914; but the conditions of those years were, even for pre-war years, far from typical, and it would be futile to attempt to restore that state of affairs, even if we desired to do so. Although Bank Rate may always have its uses, the future lies not, I believe, with those who would rely on a refurbishing of Bank Rate, but rather with those who are prepared to add more weapons to the armouries of monetary authorities.

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CHAPTER VIII

THE EVOLUTION OF INTERNATIONAL MONETARY SYSTEMS

I. *The Gold Standard, Post-War and Pre-War*

DURING the Great War and the years immediately following it the monetary systems of many countries were in a state of chaos. This spectacle was the outcome of the subordination of the monetary systems of the belligerent States to the financial needs of their governments, while ignorance of monetary theory and the strength of certain interests had added fuel to the inflationist fires. The discomforts attendant on the chaos became more widespread as time went on,[1] and eventually a very natural and healthy reaction set in. Longing eyes were inevitably turned to the pre-war world—and in terms of monetary affairs pre-war methods had one name: 'the gold standard'. To all countries alike, and especially to those which had been through complete chaos, the restoration of the gold standard became a most serious object.

For a number of reasons English views upon the way in which a restored gold standard should be worked predominated. The English gold sovereign had been virtually an international coin before the war. England had had a longer experience of the gold standard than had any other country. London had in pre-war days been the leading financial centre of the world, so that its monetary system had naturally received most widespread attention. England had already, before the end of the war, been thinking about the post-war monetary system, and official views had been actually formulated in the Cunliffe Report. Last, but by no means least, English thought prevailed because

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[1] The position was worst in Central Europe. The most thorough analysis of post-war inflation is to be found in Bresciani-Turroni's *Economics of Inflation*, which is concerned mainly with Germany.

English financiers, believing that the restoration of an international standard would stimulate a revival of international trade from which England would gain so much, were anxious to offer advice and assistance to countries whose monetary systems had fallen into chaos.

What was the advice which English authorities gave both to other countries and to our own people? Restore the gold standard: that was fundamental. The way in which 'a complete and effective gold standard' worked was set forth in the First Interim Report of the Cunliffe Committee, in 1918.[1] That Report purported to describe the working of the pre-war system. In its simplicity that system appeared sublime. If the Bank lost gold as the result of an adverse balance of payments or as the result of active trade at home, up must go Bank Rate, which would provide both a palliative (in changing the balance of international short-term capital movements) and a cure (in forcing a general rise of interest rates, credit contraction, and damping-down of trade at home). Contrariwise, a decided influx of gold from abroad or a decline in home demands for cash for circulation should be followed by a lower Bank Rate and general expansion.[2] The system turned on the central bank's being obliged to respond to changes in its reserve of unissued notes (or idle gold) by changing Bank Rate.[3] International gold movements and home cash-circulation requirements should be the criteria, Bank Rate should be the weapon. If the 'reserve'[4] fell, Bank Rate should be raised in order to deflate. If the 'reserve' rose, Bank Rate should be reduced in order to inflate. Those were 'the rules of the gold-standard game'.[1] That was the fool-proof system by which (to quote the Cunliffe Report) 'Domestic prices were automatically regulated so as to prevent excessive imports; and the creation of banking credit was so controlled that banking could be safely permitted a freedom from State interference which would not have been possible under a less rigid currency system'.

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[1] The Report is reprinted in Gregory, *British Banking Statutes and Reports*, vol. ii, pp. 334 et seq. (see especially, for above point, pp. 336–7).

[2] This case was not put explicitly in the Cunliffe Report; but it was implicit in the analysis of the chain of events which should follow a loss of gold.

[3] The Cunliffe Report allowed for the central bank's ignoring seasonal movements: so far the system was not automatic.

[4] 'Reserve' being, in the Bank of England sense, the unused note-issue: an amount dependent, under the Act of 1844, on international gold movements and circulation requirements.

And so the gold standard was 'restored'—at various dates in different countries, one of the first being Austria in 1922 and the last being Japan in 1930 and Portugal in 1931. England and most of the British Empire went on in 1925, and France, though nominally not until 1928, effectively about the end of 1926. Through the later nineteen-twenties the gold standard was working over much the greater part of the world. And then what happened? The international gold standard broke down. Though some countries were still on the gold standard until 1933 and even 1936, as an international standard the gold standard may be said to have collapsed in the summer of 1931. The reasons for its collapse have been discussed by dozens of writers.[2] The arguments most commonly put forward may be grouped into two: that the post-war gold standard was subject to excessive strains—wage-rigidities, war debts, reparations, ill-chosen parities, &c.—and that the central bankers of the world did not 'play the game according to the rules'. The first of these arguments is amply discussed in other books. With it I find myself in sympathy, though I believe that the contrast between the strains of the pre-war world and the strains of the post-war world has been exaggerated, and that it is not by itself sufficient to account for the contrast in monetary experiences.

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[1] A phrase first used, I believe, by Mr. Keynes in his *Economic Consequences of Mr. Churchill*.

[2] Two of the best little books on it are Gregory, *The Gold Standard and its Future*, and Gifford, *The Devaluation of the Pound*.

The second argument goes deeper. If the international gold standard broke down because the central bankers of the world did not 'play the game according to the rules' two questions arise. (1) Why, after the rules had been so clearly laid down in the Cunliffe Report and successive similar documents in other countries, did the central bankers break them? (2) Were these rules really the rules according to which the pre-war world had been so much more successful in working the gold standard? To these two questions we must now address ourselves.

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First, why did the central bankers 'break the rules'? The clue lies in the Cunliffe Report's qualifying phrase 'If the adverse conditions of the exchanges were due not merely to seasonal fluctuations'. It was clearly recognized that purely temporary movements of gold and the circulation provided no justification for the initiation of an inflationist or deflationist banking policy. It would be preposterous to suggest that the efflux of cash from the banking system every week-end should justify the initiation of a deflation policy on Friday afternoon, to be followed by an inflation policy on Monday, just as it would be preposterous for the monetary authorities to take any notice of the rise every Sunday in the velocity of circulation of threepenny bits. It would, I believe, be as widely accepted that the central banks should be prepared to provide for increased cash needs of the public at harvest-time. Similarly it would seem that when a bad harvest leads to an adverse balance of payments the efflux of gold which results should not be allowed to have any deflationary effects at home. When once we have admitted such arguments it is difficult to know when to stop. There is always some cause at work which can be regarded as temporary. Difficulties may arise out of this, of two kinds. First, a permanent disequilibrium may be unperceived because there are always some temporary causes at work which may be held to account for a gold movement. Second, a temporary cause, apparently justifiably ignored,

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may in fact take so long to be eliminated that the reserves of the gold-losing central bank may be exhausted in the process. These two kinds of difficulties may be illustrated by posing the views which English authorities might have taken on gold losses to Paris in 1928–30. Throughout the period there was a tendency of gold to go to Paris; but it was pronounced only when some blatantly temporary cause was operating. For example, there was on one occasion a purely temporary Bourse crisis in Paris which led Paris banks to increase their cash in Paris by drawing funds from London. It would have been difficult to justify a deflation policy in England by the gold losses in that month. As to the persistent tendency for gold to leak to Paris, there were two ways of looking at it: (1) the franc had been linked to gold at an unduly low level—as gold went in, prices would rise in France, and England had only to sit back and watch the gold go until this happened; or (2) at the level of French prices and exchange rates, the cash supply of France was unduly restricted. Under their awkward monetary laws more cash could only be obtained by importing gold. England should therefore allow the gold to go: once the cash needs were satisfied, gold would cease to move. Whichever of these two views was taken, there was some case for offsetting the English gold loss, not allowing it to have deflationary effect, because the movement was *temporary*. I admit that there are arguments against this; but central bankers had obviously some case for interpreting the rules to enable them to ignore certain movements. Once we allow them to offset 'temporary' movements, action depends on diagnosis of the situation. And that diagnosis has to be made at once—not after statistics months and years in arrear have come to hand. It is very easy to say after the event that such-and-such a diagnosis was wrong: it is not so easy to be infallible in diagnosing the situation on the spot. Uncertainty about the accuracy of one's diagnosis is always apt, too, to leave a bias in favour of emphasizing the temporary cause rather

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than the deep-seated cause. Central bankers are, after all, only human. I should therefore be inclined to argue that in so far as the central bankers did break the Cunliffe rules they were acting in the (justifiable) belief that the system did allow them some discretion, and that in solving the very difficult problem of diagnosis they may sometimes have erred.[1]

Our second question is in effect: Did the Cunliffe Report give a fair picture of the pre-war world? And I strongly suspect that the answer is negative, and that misunderstanding of the pre-war system has been to an appreciable extent responsible for the contrast between the success before the war and the failure after the war of the gold standard to provide a tolerable monetary system.[2] Over much of the pre-war period the instrument of Bank Rate policy was used very warily, and in certain important areas—France is the leading example—it was scarcely used at all. The central banks, far from reacting automatically to gold movements, used all sorts of devices to make Bank Rate changes unnecessary.[3] Inflationist expansion in England and the United States appears to have led, not to gold effluxes, but to gold's being drawn into those countries to provide increased cash for circulation. Bank Rate certainly does not appear to have been a weapon universally used to keep gold supplies in different countries in line with each other. The varied needs of different phases of the Trade Cycle appear to have been taken care of, in part at least, by the Bank of France varying its enormous appetite for gold. There was, in general, no serious

[1] I have been thinking primarily in terms of English policy; but I believe that French and American policy can, to some extent, be explained along similar lines. Explaining is not identical with defending.

[2] On what follows the reader should consult Whale, 'The Working of the Pre-War Gold Standard', in *Economica*, 1937. All that I have to say is open to the same reservations he made there: the theory, like its more popular alternative, is unproven but seems to fit the known facts better.

[3] For an analysis of these weapons as used by the Bank of England, see my *Bank of England Operations, 1890–1914*. See also E. J. Dec 1936 p697
(1) Restrictive or laxative action in advance of, or even in face of actual gold movements; (2) a great variety of devices for strengthen the effectiveness of Bank Rate; (3) an elaborate technique for operating directly on the movement of gold without moving Bank or market rate - mainly by fixing differential prices for the

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attempt to keep price movements in different countries in line with each other by using that blunt and laggard instrument Bank Rate—enforcing dear money in one country while cheap money was being enforced in another country. Rather prices were kept in line by banking systems' being passive (i.e. maintaining interest rates and security canons unchanged) while prosperity or depression, spreading from one country to another through the varying activity of export trades,[1] called forth the elasticity required to finance itself. Only when the movement—either boom or depression—became extreme did the stiffness in the jaws of the French gold trap and the perturbations of the Bank of England set in motion any movement of interest rates marked enough to hasten reversal of the economic tide.

So unlike were the rules of the pre-war game to the Cunliffe rules! It is true that in the last few years before the war there appeared a decided tendency for the system to become more like the Cunliffe system and that tendency might very well have gone farther.[2] But after the war all was changed. The former variety of central-bank weapons was forgotten: Bank Rate changes were to be the order of the day. Had it not been for those peculiarly great strains (particularly ill-chosen parities) which we have already mentioned the new system might have been made workable—particularly if the United States had been able to develop a foreign investment technique which would have enabled her to use her gold as a post-war substitute for the pre-war French reserve. As it was, other circumstances combined with the independent and highly variable Bank Rate policies of different centres to coax into existence an enormous mass of short-term funds which could be transferred from cheaper to dearer money centres as the wind

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[1] On the application of the Multiplier Theory to the connexion between the balance of trade and total national income, see Harrod, *The Trade Cycle*, pp. 145–58.

[2] I am indebted to Mr. Robertson (*Economic Journal*, 1936, p. 696) for the suggestion that the Cunliffe system might, in the absence of war, have become the ruling system.

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happened to be blowing. The Post-War Gold Standard, with its all-important partner a jumpy Bank Rate, brought forth this progeny: the 'International Short-Loan Fund' —a progeny which proved to be an Old Man of the Sea. For at the first serious crisis the tearing from centre to centre of this abnormally large International Short-Loan Fund soon proved more than any international standard could bear.

It may be objected that I have exaggerated the jumpiness and the divergent movements of Bank Rate in the important countries: there was much ignoring of gold movements, much 'offsetting', much co-operation between central bankers showing itself particularly in concerted movements of Bank Rate. This is true. The co-operation between central banks was doing much to make the post-war system work more like the pre-war system. But that was when the central bankers were charged with 'breaking the rules'! Indeed, one feels tempted to suggest that, far from the gold standard collapsing because the central bankers broke the (Cunliffe) rules of the game, their most serious contribution to the working of the international standard was when, in defiance of the Cunliffe rules, they were taking long views and working co-operatively.

The collapse of the gold standard left the leading countries of the world in a position which they did not like. A simple reversion to the completely independent currencies of early post-war days was particularly distasteful to those countries (especially in Central Europe) which had had most unpleasant experience of the dangers of independent paper currencies. These countries were for connected reasons unable to return immediately to the gold standard, and they solved their dilemma by establishing systems of exchange restrictions. These systems provide for government regulation of the foreign exchange market, the currency being supported by refusal to satisfy all demands. If this system is used to prevent a speculative short-term

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capital movement from forcing down the foreign exchange value of the currency unduly there is much to be said for it. The rate at which transactions are concluded can be adjusted to a fundamental change in the balance of trade, and the exchange-restrictions scheme may be temporary, designed just to overcome the immediate difficulties. The development of the Austrian system between 1931 and 1933 closely approached the ideal and merely paved the way for a freer and more comfortable system. On the other hand, there is a danger that the official exchange rate may be held at an excessively high level, being supported by more and more rationing of demand for foreign exchange. Such a system is bound to lead to increasing interference with the foreign trade of the country, and then increasing subjection of all economic activity to State regulation, as in the kindred systems of Germany and Russia. The outstanding example of an exchange-restrictions scheme developing in this way is provided by Germany.

But the development of the monetary systems of countries which were less fearful of independent paper currencies was quite different. Our own country, for example, reverted more or less exactly to the pre-1925 system. But the working of the gold standard had left behind it a legacy which was to prove almost as serious an embarrassment to the independent system as it had been to the gold standard. This was the swollen international short-loan fund. Movements of these short-term funds were subject to all sorts of speculative influences, expectations about the future value of each currency being most fickle under the post-crisis conditions. The foreign exchange value of any independent paper currency was liable to move up or down rapidly simply because short-term funds were streaming in or out, quite irrespective of any change in the fundamental relations of international prices. In these circumstances traders very soon became acutely aware of the disadvantages of being off the gold standard—the

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mobility of foreign exchange rates. Particularly was this so when the rise in the foreign exchange value of sterling, caused by an influx of short-term funds, occurred in the spring of 1932. For a movement in this direction hit the British export trades—a group of trades which were already, for secular and cyclical reasons, suffering to a peculiar degree.

The distresses occasioned by attempts to work the post-war gold standard were still far too fresh in the memory to allow the problem to be solved by an immediate return to the gold standard. The British authorities instead met the situation by devising a new system, worked by a new agency called the Exchange Equalization Account. The new system was designed to steady without stabilizing the foreign exchanges, and to insulate, as far as possible, the internal situation from the ebbs and flows of the international short-loan fund. This new system has had success enough to stimulate imitations in several other countries; but in the following sections we shall be concerned primarily with the British Account. Foreign imitations work on the same general principles though details are apt to vary.

II. *The Exchange Equalization Account*

The British Exchange Equalization Account is a sub-department of the Treasury, established in the spring of 1932. Its functions had temporarily been performed by the Bank of England. There were three reasons in favour of a new government department taking over the business. First, the law regulating the Bank of England Return would have made secrecy impossible, and discouragement of speculative operations at first made secrecy desirable. (There would also have been some difficult accountancy problems to be solved before the Bank Return could be made out.) Second, certain difficulties would have arisen about the distribution of profits between the Government and the Bank. Third, and much the most important, the

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operations would directly control the foreign exchange value of the pound, and in the state of opinion at the time this was far too important a function to be otherwise than *obviously* under direct government control. And so the Account is a sub-department of the Treasury, though its daily operations are conducted by the Bank of England acting as the Government's agent.

The Account's initial resources consisted of Treasury Bills—that is, government I O U's in terms of sterling, as described in Chapter III above. The Treasury simply created new sterling claims against itself, which it handed over to the Account. The amount of Treasury Bills handed over at the outset was about £175 millions, but this was later increased to £375 millions, and in 1937 it was again increased, this time to £575 millions. These sterling securities are renewed every three months, just as are other Treasury Bills, the Account of course securing its new bills through the tap, not by tender.

The business of the Account is to buy and sell sterling in the foreign exchange markets in such a way as to steady movements in the value of sterling in terms of the leading foreign currencies. The explicit official policy is to eliminate temporary ups and downs in the rates without interfering with the long-term trend of the market. If, that is to say, there is pressure to sell sterling because the British price level is so high that there is an adverse balance of trade (after making appropriate allowance for normal capital movements) the Account is supposed to allow the foreign exchange value to decline—and contrariwise if the fundamental position causes a hardening in the value of sterling. If, on the other hand, pressure to sell sterling originates in a withdrawal of French short-term loans from London because Frenchmen now prefer to use those funds for speculating in Wall Street, the Account should be prepared to buy sterling in order to prevent the value of sterling from falling. Or if the foreign exchange market should be inundated with orders to sell francs and buy sterling, because Frenchmen might be distrustful of the future of their own currency and prefer to hold funds in London rather than in Paris, then it would be the business of the Account to relieve the pressure by selling sterling in exchange for foreign currencies, so preventing the influx of 'bad money'[1] from forcing up the foreign exchange value of sterling. In this way foreign trade is left undisturbed by changes in the foreign exchange rates, unless the balance of trade is in such serious disequilibrium that it is proper that foreign trade should be disturbed.

The day-to-day operations of the Account are, then, the buying and selling of sterling in exchange for foreign currencies. The sterling assets are provided in the first instance by the Treasury handing over I O U's. These I O U's can be sold in the discount market in exchange for the bank deposits which are dealt in on the foreign exchanges. But there was no such initial provision of foreign currencies. That, as it happened, did not matter, as the Account was established at a time of abnormal foreign demand for sterling, so that its initial operations provided it with some foreign assets, which it did not need until the tide turned.[2] Had the Account been established when there was an abnormal pressure to sell sterling, a foreign loan or use of the Bank of England's gold reserve would have been necessary, and either method would have been given publicity which would have tended to aggravate a speculative drive against sterling.

The Account naturally does not want to put itself in the

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[1] An influx of 'bad money' occurs when foreigners seek to buy another currency, not to pay trading debts or to invest permanently in that country, but to hold a balance in the foreign currency *temporarily*. The essence of 'bad money' is that it is liable to be withdrawn again quickly: so causing a double disturbance of the balance of payments in a short time.

[2] Actually the Bank had itself been conducting operations of the kind and had accumulated some foreign assets which were sold to the Account on the latter's inception. The direction of the movement in the foreign exchange market had made possible the Bank's accumulation of foreign assets.

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position of a speculator in foreign currencies, and accordingly it makes a practice, it is understood, of exchanging foreign currencies acquired for gold almost immediately. If it did hold foreign currencies for long the system would be analogous to a gold-exchange system, and might have slightly different repercussions from those discussed in the following paragraphs. But as the practice appears to be definitely in favour of holding gold and not foreign currencies we shall assume that gold alone is held.

As the purchase or sale of sterling against all other currencies is in a sense a single market (it always being possible to buy or sell sterling indirectly, by cross-dealings in foreign currencies) the Account is enabled to influence all the leading sterling rates by operating directly on a single important rate—or at most two rates. Until March 1933 the Account is understood to have operated in dollars. The dollars could be exchanged for gold, or gold for dollars, in New York in accordance with the American gold-standard arrangements. After that and until October 1936 the Account is understood to have operated in francs, which were convertible into gold at the Bank of France. When France went off the gold standard, America still restricting the convertibility of dollars into gold,[1] the Account's system of turning its acquired foreign assets into gold became precarious. Indeed the situation might easily have become the impossible one of three great Exchange Accounts—those of England, France, and the United States—indulging in a preposterous tug-of-war. But thanks to the co-operative spirit which was embodied in the Tripartite Agreement of October 1936 the difficulty was soon overcome. The three great Exchange Equalization Accounts undertook to buy from each other, in exchange for gold, any of their own currencies which either of the other Accounts have acquired in the course of their operations. That is to say, the English Account can now buy francs or dollars again if necessary for achieving its purpose of steadying the market in sterling, knowing that it can on the following morning turn those francs or dollars into gold (apparently at the day's price of gold).

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[1] The United States Treasury refused to sell gold except to those central banks which were themselves obliged to sell gold at fixed prices.

Certain problems of policy remain to be solved: there is every indication that the English Account has been a persistent buyer of gold and it is becoming questionable whether it is observing its criterion of 'not interfering with long-term trends'. But this book not being a treatise on foreign exchange theory we must leave those problems aside. What is clear is that the technical apparatus for influencing the foreign exchanges in the desired way is now adequate. With the three great Accounts co-operating no conceivable combination of speculators could muster sufficient resources to defeat the official objects. Such an attempt would be destined to very costly defeat. The co-operative arrangements also make it impossible for short-term speculators to operate with success in the bullion market, for the bullion market has become part of the market controlled in fact by the operations of the three great Exchange Accounts. The dependence of this technical strength on the co-operative arrangements which followed the Tripartite Agreement should of course be emphasized: a return to the unco-operative spirit of earlier years would be most disturbing. Of that there appears little risk at the moment.

The Exchange Equalization Account system of controlling the foreign exchanges may be usefully compared at this point with the alternative system which was adopted in countries not so favourably placed. The Exchange Restrictions system maintains an official exchange rate by restricting the orders effected by one side of the market. The Exchange Equalization Account system, on the other hand, prevents an excess of orders on either side of the market from affecting the rate by throwing an equal amount of its own resources on to the other side of the market. Both systems may develop a high degree of efficiency in eliminating or neutralizing speculative movements. But whereas the Restriction system is apt to lead to more and more widespread intervention by the State in economic affairs, there is no such compulsion implicit in the Equalization Account system. Neither system solves the fundamental problem of securing equilibrium in the exchange rate.

III. *The Exchange Equalization Account and the Banking System*

So far we have confined ourselves to the effects of the Account's operations on the foreign exchange markets. We must now turn to the other important aspect, the effects of its operations on the internal position of the banking system. Here more particularly what we say is concerned with the English system: technical differences between the structures of different countries are too great for a general description to be applicable.

Suppose there to be a movement of short-term funds to England so that there is, at the prevailing exchange rate which the Account wishes to maintain, an excess of demand for sterling over supply of sterling. The Account buys foreign currencies. These foreign currencies it directly sells to the foreign authorities obtaining gold in exchange. We shall simplify the following analysis somewhat by supposing that ordinary bullion dealers use foreign currency to buy gold in the foreign centre, sending the gold to London where it is bought in the bullion market by the Account, the Account paying sterling.

The Account's chequable deposit is included in Public Deposits at the Bank of England. It provides its balance by selling in the discount market the Treasury Bills with which it was initially provided. The foreigner selling gold (or of course foreign currency) wants an English bank deposit. The Account gives him a cheque drawn on

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Public Deposits. The payee pays the cheque into one of the joint-stock banks. That finds its deposits up by the amount—say one million pounds—and it pays the cheque it has received (the cheque on Public Deposits at the Bank of England) through the Clearing House into its account at the Bank of England. Bankers' Deposits go up by one million, Public Deposits down by one million. The Account then has to replenish its balance by selling in the discount market Treasury Bills to the amount of one million. The Treasury Bills are taken up either by discount houses, which then take one million more of Money at Call and Short Notice from the banks, or by the banks themselves.[1] In either of these cases the bills are bought from the Account by a transfer from Bankers' Deposits to Public Deposits at the Bank of England. This transfer offsets at the Bank of England the other transaction which originated in the Account's purchasing gold from the gold importer. Public Deposits stand at the same level as originally, Bankers' Deposits also stand at the same level as originally. But the position of the commercial banks is different. They have unchanged cash reserves; but their deposit liabilities to the public remain up by the one million pounds of the gold importer (or the person to whom he has transferred the amount), while on the assets side either Bills discounted or Money at Call and Short Notice will be up by the same amount. A few schematic balance-sheets may help the reader to grasp this analysis of the process.

POSITION I

Bank of England Banking Department

Bankers' Deposits . .	100	Total Assets . . .	165
Public Deposits . .	15		
Other Liabilities . .	50		
	165		165

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[1] There is also the possibility that some will be taken up by non-clearing banks which are willing to reduce their cash ratios. This is a complicated case over which, however, we need not stay. It is unlikely to be quantitatively important.

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Commercial Banks

Deposits	2,200	Cash in Hand and at Bank of England	200
		Money at Call, &c., and Bills discounted	400
		Other Assets	1,600
	2,200		2,200

POSITION II

(after the Account has bought gold, the seller of which has paid his cheque into his bank, which has had the amount added to its balance at the Bank of England).

Bank of England Banking Department

Bankers' Deposits	101	Total Assets	165
Public Deposits	14		
Other Liabilities	50		
	165		165

Commercial Banks

Deposits	2,201	Cash in Hand and at Bank of England	201
		Money at Call, &c., and Bills discounted	400
		Other Assets	1,600
	2,201		2,201

POSITION III

(after the Account has replenished Public Deposits by selling Treasury Bills to the banks and/or the discount houses).

Bank of England Banking Department

Bankers' Deposits	100	Total Assets	165
Public Deposits	15		
Other Liabilities	50		
	165		165

Commercial Banks

Deposits	2,201	Cash in Hand and at Bank of England	200
		Money at Call, &c., and Bills discounted	401
		Other Assets	1,600
	2,201		2,201

In Position III the total of deposits is higher by the amount of 'the influx of foreign money', while the cash ratio of the commercial banks is down a trifle, the fall being more than balanced by a rise in the other liquid assets. To the repercussions of these changes we shall turn in a moment. It is worth pausing here to realize that the Account has operated in a way analogous to the Issue Department of the Bank of England. When the Issue Department receives gold the commercial banks receive an equal addition to their deposit liabilities and to their cash reserves. When the Exchange Equalization Account receives gold the commercial banks receive an equal addition to their deposit liabilities and to their non-cash liquid assets (Money at Call or Treasury Bills). The effect of the Issue Department taking the gold directly from the market is to *raise* the cash ratios of the commercial banks. The effect of the Exchange Account taking gold from the market is to *lower* the cash ratios, but to raise the ratio of total liquid assets (cash and Money at Call and Bills) by the same amount as the cash ratio is raised in the first case.

This newly invented device does therefore insulate the banking system from gold movements in some degree, though not entirely. When, in the absence of an Exchange Account, the gold movement is felt automatically by the Bank of England a *multiple* effect on aggregate bank deposits is induced by the initial disturbance of the commercial banks' cash ratio. When the gold movement is absorbed by the Account the cash ratio changes much less *but in the opposite direction*. Regard to the cash ratio alone would lead to the commercial banks proceeding to contract earning assets and so deposits slightly. A purely temporary movement would, in accordance with their usual practice, be ignored, being partially concealed by increased window-dressing if the movement were at all substantial. But any prolonged tendency for gold to be absorbed by the Account would, were the cash ratio alone considered, lead to some *contraction* of credit. We must not, however, forget the second liquidity rule of the commercial banks. The purchase of gold by the Account leads to the non-cash liquid assets rising as fast (absolutely) as do the deposits. While the cash ratio is falling very slightly (as a result of the increase in deposits while cash remains unchanged) the ratio of total liquid assets to deposits will be rising more. Within limits this higher liquid assets ratio may, in accordance with the second liquidity rule, satisfy the banks. Position III above will then be the final position of bank balance-sheets.

Undoubtedly this will be so, given the existence of the second liquidity rule as well as the first, unless a gold influx is very prolonged. In that event, and even if it is not prolonged, it is desirable that the central bank and the Account should allow the commercial banks to be certain of what is happening in the hope that the latter will then be entirely passive. If the commercial banks do show signs of contracting credit as a result of the fall in the cash ratio it would, *ceteris paribus*, be appropriate for the central bank to restore the cash ratio by purchase of securities, in the way described in an earlier chapter.[1] Historically the problem has been provided with a solution by a pure coincidence. There has been a persistent tendency over years for the Account to acquire gold. But it so happened that about 1933–4 the debt-funding operations of the Treasury had left the market uncomfortably short of Treasury Bills. The banks, being unable to secure sufficient liquid outlets for funds in Money at Call and Treasury Bills, had, in accordance with their second liquidity rule, allowed the cash ratio to rise to quite an unusual height, to compensate for the unusually low ratio to deposits of other liquid assets. Over succeeding years the sale of Treasury Bills by the Exchange Account (to finance the purchase of gold) while foreigners were acquiring sterling had the automatic effect of reducing somewhat the cash ratios (as deposits increased) and increasing more rapidly the ratio to deposits of other liquid assets. The disposal of Treasury Bills by the Account has simply had the effect of restoring to a more normal condition the distribution of commercial bank assets (as between cash, other liquid assets, and the remaining assets). The banks have accordingly been passive to the Account's operations. This is pure accident of course and should not blind us to the more probable consequences of a prolonged influx of gold.[1]

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[1] See pp. 105–8. It could thereby restore the cash ratio; but at the expense of some (probably trivial) fall in interest rates, which it might not wish to see. (The fall in interest rates being forced by the change in the composition of the public's assets.)

One further question remains. In the preceding paragraphs it has been assumed that all is well if the banks can be persuaded to leave undisturbed the position reached in Position III in our schematic example. Is this assumption justifiable? It is true that the banks' addition to Bills and Money at Call just balances the addition to the supply of Treasury Bills, so that no disturbance in short-term money rates need be expected. And it is true that the banks' other earning assets are undisturbed, so that there are no changes in supply to justify any change in the terms on which ordinary bank loans are available, or in the state of security markets. But there is an increase in deposits—the increase which fundamentally represents new sterling which the Exchange Account has thrown into the market to meet (without disturbance of foreign exchange rates) the extra demand for sterling. On our view of bank deposits this is obviously an increase in the supply of money. Is that likely to disturb the internal economic situation?

The answer depends upon what the foreigner wants to do with the sterling when he gets it. He wants sterling because he considers it a more stable asset than his own

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[1] Since the above was written it has become evident that the continued absorption of gold during 1937, being met by rigidity in the cash ratio (in contrast to the earlier experience analysed above), has forced the authorities to unload sterling securities *on the market* (not on the banks). In the absence of an increased cash basis this has tended to force up interest rates.

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currency or (if he is able to get it) gold. If he is content to hold the English bank deposit idle, simply drawing as income any interest which the English bank will pay, then the addition to the supply of money does not disturb the English situation—for the new-born purchasing power is never to be exercised.[1] A second possibility is that the foreigner may want to hold British Treasury Bills or lend his money on short-term in the London discount market. In that case the sales of Treasury Bills by the Exchange Account are met by the new foreign demand, either directly (when the foreigner wants to hold Treasury Bills) or indirectly (when the foreigner lends in the market, enabling discount houses to take up more Treasury Bills). This is an interesting possibility as it shows how, given the Exchange Account arrangements, 'bad money' can most harmlessly be employed in London. If the foreigner wants to hold British Bills as an attractive sterling security, in preference to his own currency, the Exchange Account simply *creates* the additional sterling securities required (Treasury Bills) which it hands (indirectly) to the foreigner in exchange for his own currency (which the Account immediately exchanges for gold). There is in that event no need for the banks to take up any more Treasury Bills nor for them to lend more to the discount market, nor is there any addition to the total of English bank deposits. The banks and interest rates in London are left absolutely undisturbed, just as when an influx of gold into the Issue Department is countered by an increase in foreign hoarding of Bank of England notes. In the Exchange Account case the entire transaction is confined to three parties—the foreigner who distrusts his own currency, the English Exchange Account, and the foreign monetary authority. They swap assets—the foreigner giving to the Exchange

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[1] But if refusal of the Bank of England to increase cash, coupled with refusal of the commercial banks to lower the cash ratio, forces the authorities to counter the gold influx by unloading securities on the market (as in 1937) idleness of the 'bad money' is a deflationary influence (cf. fn. to p. 205).

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Account his own currency, receiving (indirectly) British Treasury Bills, the Exchange Account gives to the foreign monetary authority the foreign currency, receiving gold.[1] In the Issue Department case, the foreigner, through the foreign exchange market, offers gold, receiving banknotes. If the foreigner does happen to want to hold sterling in the particular form which the Exchange Account creates (British Government I O U's) there is no disturbance whatever to the English banking system. The Account acts as a perfect insulator.

The success of the Account is much more limited if the foreigner takes bank deposits which he proceeds to use for speculative investments on the London Stock Exchange. In that event the new-born bank deposits do disturb English conditions, for the capital market is subject to bigger pressure of demand and interest rates tend accordingly to fall—with inflationary effects. This is broadly the position which has been faced in the United States. Their Exchange Equalization Account arrangements, even after the elaboration which more effectively insulated the supply of cash in America from the influx of foreign funds, could not prevent the foreigners from being bulls in Wall Street.

Throughout these examples the case taken has been that of an abnormal foreign demand for the Account's currency leading to an influx of gold into the Account. The analysis can easily be reversed to show the effects of a gold efflux. Indeed the reader may master the process more easily by constructing his own analysis for the opposite case, instead of reading through here the many paragraphs which would be necessary to cover that case as thoroughly as the gold influx case has been covered. Enough has been said to show that the device of an Exchange Equalization Account can act as a more or less efficient insulator, as well as having the direct effects desired in steadying the foreign exchanges.

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[1] The disturbance which occurs in the foreign centre is not our concern here. It depends upon the technical arrangements there.

If the authorities still, in pursuance of the traditional system embodied in the Acts of 1844 and 1928, wish to maintain some connexion between the note-issue and the amount of gold in the Bank of England, they can do so by providing for variations in the public demand for notes being met by varying the distribution of gold between the Account and the Bank of England. During the past five years the Bank of England has evidently been unwilling to alter the credit situation in such a way as to prevent the note-issue from expanding enormously and, to avert the necessity for an increase in the Fiduciary Issue, the Bank has taken over gold from the Account. This involves the Banking Department in selling Treasury Bills (part of its 'Government Securities') to the Account in exchange for gold, the Banking Department then handing the gold to the Issue Department in exchange for notes.[1] The Banking Department then has more unused notes and less securities than before. It can enable the banks to draw out notes for circulation, without repercussions on the total deposits, by buying securities in the market in the ordinary way. A sale by the Account of gold to the Bank of England may also be stimulated by a desire to add to the Account's sterling resources. If the Account has almost exhausted its sterling resources in the purchase of gold, they can be increased by fresh legislation to authorize the issue of more Treasury Bills to the Account (as has been done on two occasions). But if for any reason the authorities wish

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[1] The Bank of England, acting under the law of 1844, pays for the gold only the old standard price (£3 17*s.* 9*d.* per standard ounce). The Account buys the gold at market price (recently about £7 per fine ounce), so that every resale of gold to the Bank involves a big loss of the Account's resources. £140 millions may have been paid indirectly in Treasury Bills for gold which is subsequently resold to the Bank for £85 millions. The very large sales to the Bank over the last few years have thus involved the Account in a great shrinkage of its resources (against which the Treasury can set the prospective profits of the Issue Department, available when the gold is 'written up'). The most recent increase (of £200 millions) in the resources of the Account was almost entirely needed to replenish the Account after these losses.

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to avoid fresh legislation (as when Parliament is in recess) the Account's sterling resources can be increased by a sale of gold to the Bank. On such an occasion (as in the autumn of 1936) the spectacle of a large increase in the unused notes lying in the Banking Department might be undesired, in which case the Fiduciary Issue could be decreased by the amount which the Bank paid the Account for the gold. The changes at the Bank of England are then confined to the Issue Department. This is shown clearly in a comparison of the Bank Returns of 9 December and 16 December 1936, between which dates the Issue Department bought £65 millions gold from the Account and the Fiduciary Issue was reduced by £60 millions. (The following figures are in millions of pounds.)

	9 Dec.	*16 Dec.*	*Intervening Change.*
Gold	248·7	313·7	+65·0
Fiduciary Issue	260·0	200·0	−60·0
Note Circulation	458·9	467·7	+ 8·8
Notes in Banking Department	49·8	46·0	− 3·8

The device of the Exchange Equalization Account has thus been developed in such a way as to enable the Bank of England to continue observance of the Currency and Bank-notes Act of 1928 without subjecting its policy to needs imposed by international movements of short-term capital. But the mastery of technique which the British authorities have achieved must not be mistaken for a solution of the ultimate problems of monetary policy. It is true that the Exchange Account system has represented technical improvement as compared with the pre-war devices for insulating the circulation needs from international gold movements, and of course represents far greater improvement over the very unsatisfactory systems of 1925–31. But there is no inherent reason why these new functions should not be performed by the central

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bank.[1] The separate institution of the Account is only one of the possible devices for securing the ends of steady exchanges and insulated banking systems. And the problem of securing equilibrium between the price-and-income structures of different countries receives no automatic solution from the new inventions. Nor is any solution automatically provided for the problems set by the gold glut.[2] But discussion of those problems would take us far afield into the sphere of monetary policy. We must here be satisfied with the completed analysis of the new technical structure.

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[1] Unless secrecy is, as is arguable, technically indispensable.

[2] It should perhaps be emphasized that the long example given above (pp. 200–7) analyses the Account's meeting of a gold influx produced by a *transfer* of funds from one centre to another, not with a gold influx originating in new gold production. For the latter case the first point of the analysis remains the same; but the action to be taken by the central bank must be influenced by the fact that in this case the sterling proceeds received by the gold importer are used to meet the expenses of gold production (cf. Balogh, 'Some Theoretical Aspects of the Gold Problem', in *Economica*, 1937, pp. 274–94).

CHAPTER IX

THE DISTRIBUTION OF COMMERCIAL BANK ASSETS

I. *Economic Significance of the Distribution of Assets*

THE alleged powerlessness of bankers to influence the general economic situation has sometimes been formulated in statements of this kind: 'The banking system determines the aggregate of bank money in existence, but the public alone decides the use to which that money shall be put.' We have already seen in Chapter I that this sentence is internally inconsistent, for, given the relative unattractiveness of a money balance, control over the supply of money implies influence over the spending of money. In previous chapters we have seen how the system of banking causes that influence over the spending of money to be exercised by control of money supplies conferring on the banking system influence over rates of interest. This same proposition may be put in another way, by saying that the banks can initiate a change in the economic situation when they exchange assets with the public—giving bank deposits and receiving assets such as cash, bills of exchange, government securities, business men's promises to repay, and so forth. At any moment the public prefers to distribute its stock of wealth between different classes of assets in one particular way rather than any other way.[1] If the banks change that distribution of assets, by causing the public to hold more bank money and less of certain other classes of assets, that change must inevitably force repercussions on the entire economic situation.[2] The general nature of these repercussions has been analysed in Chapter VI. We there assumed that the methods of

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[1] The relations between various parts of the structure of interest rates will depend on the public's scale of preferences for particular classes of assets.

[2] This follows from general equilibrium analysis of the Pareto type.

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[1] The relations between various parts of the structure of interest rates will depend on the public's scale of preferences for particular classes of assets.

[2] This follows from general equilibrium analysis of the Pareto type.

II. *The 'Liquidity' of Bankers' Assets*

The ultimate object of a commercial bank is to make profits for its shareholders. The profit is derived from the income attached to the assets it is enabled to hold by the public's being willing to hold the bank's debts (deposits) as money balances. The profits are bigger the bigger the yields of the assets it holds. They can quickly be turned into losses if the capital value of the assets falls. The possibility of earning profits at all depends absolutely on the public's acceptance of the bank's debts. There must be 'confidence' in the bank. The public accepts the bank deposit as being 'as good as cash'. Public confidence in the bank depends therefore on the belief that the bank will always be able to exchange deposits for cash on demand. Power to offer cash in exchange for deposits is therefore a prerequisite of the profits which a commercial bank is seeking.

'Liquidity' is the word which the banker uses to describe his ability to satisfy demands for cash in exchange

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for deposits. To earn profits at all the banker must maintain confidence. To maintain confidence he must maintain an adequate degree of liquidity in his assets. The perfectly liquid asset is of course cash itself. The more cash a banker holds the more obviously can he, without any difficulty of any kind, offer cash in exchange for deposits. But cash is an 'idle asset'—it earns no income at all. To make a profit the banker must hold some assets which are imperfectly liquid.[1] What should be the nature (other than income-earning) of the imperfectly liquid assets of a bank? The answers which bankers have given to this question have generally left an ambiguity about the word 'Liquidity', an ambiguity which has its root in banking conditions of earlier days. To satisfy depositors' claims a bank must be able to convert its assets into cash *quickly*. But that is not all. If the depositors' claims are to be fully satisfied the bankers' assets must be convertible into cash *without loss*. When bankers have said that they aim at liquidity they have generally included *both* these attributes.

The ambiguity is realized at once when we ask whether long-term British Government securities are highly liquid or relatively illiquid assets. The uncertainty of bankers' treatments of this question has its origin in the ambiguity of their use of the term 'liquidity'. The securities can be turned into cash very quickly for there is an excellent market for them on the London Stock Exchange. That is to say, these particular assets are readily shiftable on to other banks or institutions or persons willing to supply cash. But the amount of cash which can be so obtained depends upon the market price at the moment—it may be more or less than the price at which the bank acquired the asset. Only by waiting until the distant maturity date can the face value certainly be obtained. This asset is attrac-

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[1] There is the possibility that a State institution can perform the business of creating a readily transferable asset for public use in settling debts, meeting the cost by charging individuals a commission on the amount they draw.

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tive to the banker in that it is shiftable and, if he can wait until the maturity date, devoid of risk of loss. But it is unattractive in that earlier realization may involve the banker in a capital loss. It is wellnigh perfectly 'shiftable', but despite the absence of any risk of the British Government's not meeting its obligations the security has not all the qualities which the banker includes in perfect liquidity.

The distinction between shiftability and the second attribute of liquidity may be further illustrated by reference to the ordinary shares of an outstanding industrial company—say Imperial Chemical Industries. A bank which chose to hold such shares could turn them into cash very quickly by selling them through the Stock Exchange where those shares enjoy a wide market. But there would be all sorts of risk of loss attached to those securities and, despite their very high degree of shiftability, the banker would probably describe them as illiquid. Contrast the example of a bank (or individual) lending to a traveller going to Tibet or to explore the Desert of Gobi. The lender may well know the traveller to be an honest man who will make a point of paying his debts when he returns. The debt may be well covered by assurance of the traveller's life, the policy being held by the creditor. There may thus be practically no risk of loss attached to the loan—but a bank may well hesitate to offer a bank deposit in exchange for the traveller's promise to repay. For it would be so difficult to arrange for some other institution to take over, in exchange for cash, the bank's claims against the traveller while the latter was in the middle of the Desert of Gobi. The asset would be shiftable only with great difficulty, and, despite the virtual absence of risk, the banker would describe the asset (the traveller's promise to repay) as illiquid. Many bank loans to business men are probably more or less like this: the bank managers know that the firm's assets amply cover the amount of the loan, and that the firm is an honest one, but the informality with which the loan has been arranged between banker and customer makes it shiftable only at more or less inconvenience. To many other business loans serious risks of loss are also attached. The banker rightly ranks his loans on overdraft arrangements among his least liquid assets.

The astute reader will have noticed, particularly in the discussion of the example of British Government securities, that shiftability and risk of loss as the two elements which constitute the banker's liquidity are not completely disentangled. *If the banker can wait until maturity* there is no risk attached to a redeemable British Government bond. If, therefore, the banker has a fair proportion against deposits of assets which have high shiftability and low immediate risk (cash being the extreme case), he can feel reasonably secure in holding some assets which are highly shiftable but only riskless if not shifted. Similarly, if he has a fair proportion of the most liquid assets, he can afford to hold some assets which have a low risk degree but also low shiftability. Assets which are both unshiftable and risky will be viewed with much more disfavour. The banker must, that is to say, pay regard to both aspects of liquidity at once. He should always have some assets which have both attributes clearly. In addition he should have some assets with a high degree of shiftability which involve no risk of loss if shifting can be avoided. His remaining (less shiftable) assets should at least not involve him in losses. Those are among the fundamental canons of sound commercial banking.

We must now look more closely into this matter of 'shiftability'. One particular commercial bank can look upon some of its assets as readily shiftable on to other banks or non-bankers willing to diminish their balances. For the purpose of meeting temporary adverse Clearing House balances or for meeting a run which is, for domestic reasons, restricted to that one bank this shiftability is adequate. But a much more dangerous situation may arise. The demand for cash in exchange for bank deposits may not be confined to one bank. Indeed if a crisis arises

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it is unlikely that a run will be restricted to a single bank. The more consolidated the commercial banking structure the more likely is the demand for cash to be generalized. In America the correspondent connexion between unit banks is apt to be a channel through which shocks to one bank can pass to many other banks. In a country where the business is all in the hands of a few great banks serious disturbance of one of those banks is bound to cause such a disturbance of the entire economy as to spread the difficulties to other banks. Such considerations as these make it imperative to think of shiftability very much in terms of shiftability on to the central bank—the lender of last resort, the ultimate source of cash. In judging the shiftability of any asset regard must be had primarily to shiftability (either direct or indirect) on to the central bank. The eligibility canons (the rules by which the acceptability of assets is determined) of the central bank are therefore of vital importance to the liquidity of the commercial banking system.

Maximum shiftability is attained by assets which can be most readily shifted on to the central bank. This depends entirely on the eligibility rules of the central bank. Generally speaking central banks will give cash on demand for Treasury bills and bills of exchange fulfilling certain conditions. Why these happen to be the typical eligibility rules of central banks we shall discuss in the next section. We may simply add here that since the implications of central banking have been fully understood there has been a disposition to extend eligibility to other classes of assets. Any such extensions are subject, however, to obstacles which are not placed in the way of the rediscounting method of obtaining cash. Treasury bills and bills of exchange which meet central bank requirements are therefore *generally* the most 'liquid' earning assets; but not in London. The rediscountability of a bill makes it very attractive for its shiftability; but the length of its life—typically three months—implies risk of a small loss.

For if the bill is rediscounted at a higher rate of interest (discount) than that at which the commercial bank took it, there may be a capital loss.[1] The shorter the life of the bill the smaller is the loss which may be involved in rediscounting. Hence the preference of banks for short-dated bills. The 'eligible' bill is a highly shiftable asset, and becomes less risky as it approaches maturity. London, with its highly developed discount market and its system of indirect contact between the central bank and the commercial banks has been able to provide the banker with an even more liquid asset. The call and short loans to the discount houses have the shiftability advantages of bills of exchange because the Bank of England is always ready to give the discount houses cash in exchange for the eligible bills which the commercial banks expect to be deposited as collateral security for their loans to the discount houses.[2] But if the banks want to obtain cash they can call in these loans and secure *the full sum originally lent*, with interest at the pre-arranged rate. There is no risk of loss. In London therefore the Money at Call and Short Notice, in so far as it is covered by eligible paper deposited by the discount houses, stands next to cash in order of liquidity. After that, and immediately after cash in other banking systems, come Treasury bills and bills of exchange in order of their nearness to maturity. The very slight risk there is of wholesale default by all the other names on an eligible bill of exchange is the only reason for placing Treasury Bills before ordinary bills of the same maturity. No other assets are so shiftable. Wherever there is a well-developed central banking system banks are apt to consider their proportion to deposits of these highly liquid assets as almost as important as their cash ratios. We have already seen[1] how in England this tendency has become sufficiently crystallized to merit the title of the Second Liquidity Rule, and how the operation of that rule has qualified the connexion between the supply of cash and the total of bank deposits.

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[1] As explained on p. 54 above.

[2] The banks have also, especially in the last five years, been prepared to lend to the discount houses on the security of non-eligible paper (such as government bonds having a year or so to run); but the lower liquidity of loans against such security has been reflected in higher rates of interest charged on them ($\frac{3}{4}$ per cent. or 1 per cent., against $\frac{1}{2}$ per cent. for loans secured by eligible paper).

III. *The Attractions of Self-liquidating Paper*

But so far we have, in a sense, evaded the issue. We have said, in effect, that commercial banks have a certain preference for those assets which the central bank prefers. To understand the problem thoroughly we must ask why the central bank has historically preferred assets of certain types, and the superficial answer unfortunately seems to take us round the circle again. Whether we look at the United States, which to some extent viewed the problem independently, or at England, or at the many countries which have simply followed American or English practice, the ultimate answer to our historical question is that central banks have, in order to protect themselves against loss and to discourage bad banking, preferred 'sound banking assets'. The ultimate reason for bills of exchange, (and derivatively loans to reputable houses collaterally secured by bills) being considered 'sound banking assets' still eludes us.

We have only to glance at the literature of banking to find the banker's own explanation of the bill of exchange constituting 'a sound banking asset'. The bill of exchange, says the banker, is the ideal *self-liquidating paper*. The kind of bill a banker likes has its origin in an actual commercial transaction—say the export of Australian wheat to England—which will bring money into the hands of the debtor automatically at the end of a very short period, of say, three months. The banker simply has to sit back in his parlour for that very short time while the wheat is coming across to England, and the debtor will meet his bill without the slightest difficulty. Provided of course that the debtor is an honest man—and the banker looks for reputable names on the bill to guarantee that he will receive in due course *the money that is bound to emanate from the conclusion of the transaction*. The banker has this theory of self-liquidating paper in mind not only when he is taking bills of exchange but also when he is making advances to business men—a loan for the purchase of raw materials needed to meet an order for the business man's product is normally more attractive to the banker than is a loan to an undergraduate to enable the latter to complete his university course. The great difference between the bill of exchange and the informal commercial loan is that in the former case there is, and in the latter case there is not, a negotiable legal instrument which enormously facilitates the shifting of the loan. And if we want to know why the bill method is used in one case more than in another the answer is that bankers have devised the negotiable legal instrument to increase the marketability of those assets which, by reason of bankers' taste for their 'self-liquidating' nature, already have most chance of finding a market. The existence of a legal instrument which is called a bill of exchange is not the hall-mark of the self-liquidating asset.

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[1] In Chapter II.

A self-liquidating loan is then one which the debtor is thought sure to be able to repay, because there is evidence (often in the shape of warehouse receipts held by one of the parties) that he is engaged in a genuine commercial operation, closure of which will provide him with the wherewithal for repayment. But, to revert to our example of the Australian wheat exporter, will the closure of the transaction—the sale of the wheat in England—necessarily enable the debtor to repay? That depends on the price which the wheat realizes. The loan arrangement will generally, by keeping the amount of the bill below the expected sale value of the wheat, allow some margin to cover a slight unforeseen fall in wheat prices. If, however, there is a catastrophic fall in wheat prices before the cargo of Australian wheat comes on the market, the transaction itself provides no guarantee of the debtor's ability to meet the bill on maturity.[1] And what generally prevents such a catastrophic fall of prices? The maintenance of the supply of money. If bankers, in a misguided attempt to 'liquidate' their assets, refuse to take up any new bills and do simply sit back in their parlours and wait for the maturities of the bills in their portfolios, there is a catastrophic fall in the supply of purchasing-power and the catastrophic fall in prices which makes it impossible for debtors to meet bills out of the proceeds of their operations. Only by maintaining their assets can banks maintain the 'self-liquidating' character of a substantial class of them. The banks are for the most part important direct lenders in the short-term capital market, and the availability of means to pay off maturing short-term debts depends essentially on the banks' readiness to make new short-term loans. The certainty there appears to be that holding a bill will not involve a bank in loss if only the bill is held to maturity depends on the assumption that the banking system as a whole will not be contracting credit. Hence the widespread ruin of even the 'soundest' of institutions if a crisis is allowed to go unchecked. On the other hand, it is within the power of the banks themselves to assure certain meeting of bills at maturity (always provided the various signatories are honest).

The implications of this analysis are surprising. For if the 'soundness' of short-term paper is dependent on the banks' own action, why should they not make long-term paper equally attractive to themselves? British Government securities, for example, are secure enough in the sense that at maturity the British Government is certain to provide cash if demanded.[1] Their great disadvantage from the bankers' point of view is that maturity is often such a long way off and selling before maturity involves the risk of serious capital loss if the rate of interest has risen. If only the banks would throw their weight into the long-term market in the same way as they throw it into the short-term market these fluctuations in the capital value of long-term securities might be avoided. But this suggestion ignores two very important facts. The banking system is obliged by the monetary policy of the State (e.g. a gold standard policy or elimination of the trade cycle) to keep the internal price structure within certain bounds. This is likely (as the progress of technical invention, business confidence, and other relevant factors vary) to call for some adjustment of the rate of interest from time to time. Consequently, even if the banks formed the main channel through which the supply of long-term capital passed, there would have to be variations in the long-term rate of interest. And a given fluctuation in the rate of interest necessarily has far greater effect on the capital value of securities which have a long term to run than on those whose maturity date is near.

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[1] I ignore, for the sake of simplicity, the complicating fact that the merchant will probably have 'hedged'. Readers familiar with the process will realize that my conclusion is unaffected if the appropriate complications are introduced.

But apart from this rate of interest reason for the banks preferring to leave to other institutions most of the provision of long-term capital, there is another reason not apparent in our example of the bankers' view of long-term government securities. Providing the bulk of the capital in the short-term market involves taking views about the solvency of the particular people who borrow. In the English system to-day this work is done partly by Accepting Houses, discount houses, &c. (so far as borrowers on bills of exchange are concerned) and partly by the banks themselves (when they make direct advances to customers). Were the banks to be the channel through which most long-term capital passed to business men either the banks themselves or some specialist intermediary guarantors[1] would have to pass judgement on the creditworthiness of borrowers for long periods ahead. This is a crucial difficulty for the banker. It is infinitely easier to say of an industrial firm that it is likely to be still solvent in three months' time than to say that it is likely to be still solvent in twenty years' time. It is the enormously increased risk of loss, due to the difficulty of foreseeing the creditworthiness of particular borrowers far ahead as well as to the greater effects of interest rate changes, that makes the bankers avoid the long-term capital market. The short-term loan is not more attractive to the banker because it is used to finance a transaction which is self-liquidating in a way in which transactions financed by long-term loans are not. It is more attractive because given changes in the rate of interest disturb its capital value less and because it is easier to look three months ahead than twenty years ahead.

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[1] The central bank can in practice never refuse to lend to the Government.

This analysis of the ultimate roots of the bankers' preference for short-term loans may appear to have no practical importance. It might be argued that all we have to do is to take it that bankers have traditionally had certain preferences and that those preferences have influenced the present shiftability of assets on to central banks, and that the current liquidity notions of commercial banks are based on these traditional preferences and on the current shiftability of their assets on to the central bank. This would be a conclusive argument if we could take the view that the banking system has now reached a final stage and further evolution is unthinkable. The latter position is untenable: banking ideas are bound to change in course of time. And unless the roots of bankers' traditional ideas about liquidity are very thoroughly grasped I see danger ahead. With the growing realization of the compulsion on the central bank to act as lender of last resort—to offer to the public in a crisis an unlimited supply of its own liabilities in exchange for a commercial bank's liabilities—emphasis has been placed on the shiftability aspect of liquidity to the exclusion of the loss-avoiding aspect. Once central bank business is thoroughly understood all banking assets become ultimately shiftable on to the central bank. The central bank must do its utmost to prevent a crisis and that involves it in relaxing its eligibility rules indefinitely.[1] But if all banking assets become shiftable in this way bankers may be tempted to be less critical of the assets offered to them. This is of course the most serious argument of 'Free Bankers'.[2] The latter would argue that if commercial bankers can always rely on the central bank helping them out of difficulties they can be venturesome and look for quick profits. If, on the other hand, the banks have to depend entirely on their own resources they will be prudent, they will hold adequate cash reserves and will not encourage such speculative developments as must result in crises. While not accepting the general arguments of the Free Banking school I do think that there is danger that the twentieth century's fuller realization of the function of central banks may lead to more careless commercial banking. To check such an undesirable development we must stress the fact that liquidity has not historically been based simply on shiftability. If necessary central banks must be prepared to jolt the commercial bankers into the realization that reliance on the central bank gives no excuse for imprudence in accepting risky assets.[3] For the confused reasons I have

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[1] There does appear to be some tendency for such specialist intermediary institutions to arise to facilitate the provision from bankers' resources of 'intermediate term credit'. The Agricultural Mortgage Corporation is a rather special case. But similar arrangements for provision of long-term capital meet with far greater difficulties.

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[1] Recognition of this point is one of the most interesting features of the recent American banking legislation.

[2] i.e. those who oppose the institution of central banking, holding that all banks should be commercial banks, none having special privileges and none being obliged to act as lender of last resort.

[3] A pre-war example of such action by a central bank occurred in 1906–7 when the Bank of England modified its eligibility rules so as to

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endeavoured to analyse above 'sound banking' has been closely associated with the theory of self-liquidating loans. It would be most unfortunate if explosion of that theory and growth in shiftability should lead bankers to suppose that 'sound banking' along traditional lines is foolishly restricted in its operations.

IV. *The Bankers' Choice of Assets*

We leave now the question of why, as a matter of history, bankers have shown certain preferences in their choice of assets and turn to the way in which that choice is exercised to-day. Some elementary discussion of the distribution of commercial bank assets in England and in America has already been given in Chapter II and we do not propose to repeat much of what was said there. We shall confine ourselves to some broad international comparisons and to some discussion of certain tendencies both cyclical and secular, which appear in the assets distribution of the commercial banks of many of the most important countries.

International differences in the assets-structure of commercial banks depend on two factors: the remaining structure of the capital market and the extent to which classical notions of good banking have penetrated each country. Of these two factors the former is nowadays much the most important. England has never had a monopoly of sound banking ideas,[1] and in the more backward countries the penetration of the great international banks has helped to spread classical banking thought. The non-availability of assets of particular kinds and the pressure of business interests for assistance unobtainable elsewhere have in general been responsible for the main divergences of other commercial banks' distribution of assets from

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discourage the taking up of American paper, when the American boom was reaching its climax (see my *Bank of England Operations, 1890–1914*, p. 68).

[1] Indeed it may well be argued that such ideas were imported from Scotland.

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those typical in England. To take the clearest example—Money at Call and Short Notice in England consists largely of loans to the discount houses—highly liquid loans, almost as good as cash. But the vast majority of countries have no discount market whatever. The most attractive type of banking asset is simply unobtainable. 'Call Money' is important in some other centres (New York and Montreal for example) but it is almost exclusively loans to the stock dealers—loans which cannot ordinarily be shifted on to the central bank. Government bonds are generally nowadays available in amounts large enough to meet any bank's conceivable requirements; but a South American bank may well feel disinclined to hold a large block of the bonds issued under a constitution which may be suspended next week! Such a bank can, it is true, hold the bonds of some other government which can be relied upon to meet its obligations, but the investing bank then has to take the risk of the foreign exchange rates moving against it. Just as loans to the discount market are larger in England than anywhere else, so holdings of government securities are apt to be small in South American Banks and large in Indian banks. The financial record of a country's government is of course not the only factor influencing the banks' willingness to hold government securities—in Australia, for example, the abundance of other outlets for their funds is such that the banks hold even less of government securities than do some banks of the unstable South American states.

Given that he is adequately provided with the most liquid assets—above all cash—there is one general class of assets which is universally sought by bankers. This consists of the loans to business men, made either under an overdraft arrangement or by the discounting of a bill of exchange. In London, and to a less extent in some other centres, the bill of exchange often receives the signature of some specialist institution which makes itself responsible for the debtor's solvency. But more generally the bill

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of exchange method approaches the ordinary advances method. Which type of arrangement predominates is apt to be the outcome of historical accident; but the creation of central banks tends to encourage the bill of exchange method, as it provides a legal instrument which can be more readily transferred than the somewhat informal bank advance. The bank advance has one great attraction for the banker: it is more profitable than any other asset. This higher yield is due to the fact that the personal risks attached to such loans make them an unattractive investment for people who have not the facilities of bankers for investigating the credit-worthiness of borrowers. The loans have, as we have seen, certain disadvantages also for the banks; but the higher return compensates the banks for the relatively low liquidity and the risks involved. Within limits therefore the banker rejoices in a business man's demand for a loan. The bigger the outlet for such loans the smaller in general will be the proportion which a bank's other assets bear to the total. Opportunity for taking up these attractive assets may even induce the banks to lower their normal cash ratio (i.e. expand total assets when the cash has not expanded).

A high-class bill of exchange can normally be discounted at rates much lower than those charged on bank advances. This difference reflects the greater security which is given to the bill by the signature of an acceptor of high standing and by any other signatures which the bill bears. The acceptor bears the immediate risk of the debtor defaulting. His therefore is the work of sifting the creditworthiness of debtors, a function which is performed by the bank when it is making ordinary advances. Despite the lower yield, banks choose to hold some bills because of their great shiftability. Bills also yield on the average less than medium- and long-term government securities, while the latter yield less than the ordinary bank advances.

The broad classification of commercial bank assets into cash, bills discounted, advances, and investments (mainly government securities) is practically universal. All banks have to hold some cash; they choose to hold some bills because their great shiftability compensates for the low yield; the high yield of advances attracts the bankers; and investments give a very safe core to those earning assets which can be left undisturbed for years at a time. Apart from the varying distribution of these assets from country to country, which we have discussed above, the most important difference has been in the demands which bankers have been prepared to meet by making advances. Generally speaking the English banks have been willing to meet business men's demands for advances only if the latter have been required to finance working capital—purchase of raw materials, wage-bills on long contracts, and so forth. The English bankers have always had in mind the question: Is the money needed for a 'self-liquidating' transaction? Accordingly they have been inclined to frown upon demands for the financing of fixed capital—factory extensions, new machinery, &c. Their rules against financing fixed capital may be relaxed temporarily when a firm wants accommodation, only until it has been able to obtain long-term capital from some other source.[1] Certain banks have also from time to time become notoriously interested in the fixed capital of industry (e.g. the cotton industry); but that has been the result of being unduly generous in providing temporary finance at the top of a boom—it has not indicated any deliberate change of policy. The general presumption against lending for long-term purposes has been based on the theory of self-liquidating paper discussed earlier in this chapter. It has perhaps been unfortunate that the banking canons have been formulated in such a way that emphasis has been placed on the period of the transaction rather than on the basic fear of incurring losses. The idea that a short loan

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[1] Some of the Southern Railway electrification schemes were initially financed by bank advances, the latter being paid off as soon as opportunity to issue new debenture stock arose.

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was necessarily a safe loan and that it could not encourage such inflationary development as would inevitably result in a crash[1] did sometimes close the eyes of bankers to the risks they were running. Hence the accidental interests of the banks in the fixed capital of collapsing industries.

There are some signs that the rules by which English bankers judge the attractiveness of loans have been modified somewhat. There is still no general disposition to involve a bank in the permanent financing of the fixed capital of industry; but bankers are apparently willing nowadays to make temporary loans for such purposes and for the anticipation of individual incomes if first-rate collateral security can be deposited. Mortgages on real property or life assurance policies are commonly regarded as such security (within limits, of course). A bank which lends a tradesman sufficient to buy a motor-van, the tradesman having deposited as security a life assurance policy the surrender value of which covers the loan, is taking virtually no risk. The fact that the tradesman is using the money to buy not stock for his shop but a van for deliveries is rightly regarded as of no direct account to the banker. Title-deeds to real property are of course not quite such attractive collateral, but if the margin between the amount of the loan and the current market value of the property is large the bank may well feel justified in making the loan. Banks may even, in the case of customers whose professional position is known to the bank and whose reputation of creditworthiness is beyond suspicion, make loans for any purpose without requiring any collateral security. No doubt all these things were done in the nineteenth century; but whereas in those days the speeches and books of bankers frowned upon such transactions as rather shady banking, the books of to-day discuss them as perfectly

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[1] The fallacy of this idea has been exposed in various ways: two quite different approaches are those of Robertson's classic passage on the 'Four Crucial Fractions' in his *Money* and Machlup's 'The Liquidity of Short-term Capital' (*Economica*, 1932, p. 271).

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respectable transactions. Any change which focuses the attention of bankers on gauging risks of loss rather than ill-formulated rules of thumb is all to the good.

At the same time the advantage of scrapping the old rule of thumb must not blind us to the fact that the bankers remain subject to the general business atmosphere from day to day. In prosperity they will be human enough to underestimate risks of loss and in depression they will be human enough to overestimate risks of loss. In America in the nineteen-twenties the commercial bankers often involved themselves in heavy losses not because they made loans on real property but because they took for permanent prosperity what proved to be only a passing phase. Against such dangers there are no fool-proof rules for commercial banking.

The tendency for English bankers to recognize the shortcomings of the nineteenth century's golden rules seems unlikely to lead to any such radical change as would approximate English banking to the traditional Continental model. Rather the tendency appears to be for Continental banking to imitate English. On the Continent the commercial banks have traditionally been more deeply involved in industrial interests than have the English banks. This has been largely the result not of different banking theories but of the different order of events in economic history on the two sides of the Channel. Industrial development on the Continent was often much more rapid—the rise of the large firm was often too rapid for its capital needs to be met in the piecemeal way in which English industry had obtained its long-term capital. Banks were often established with some definite view of mobilizing the savings of the country for the benefit of the new industries which were rising so rapidly.[1] Continental industries generally looked to the banks to provide them not only

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[1] The contrast between Continental and British connexions between banks and industry can easily be exaggerated: I do not intend the broad contrast drawn above to be taken as a complete picture.

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with working capital but also with fixed capital. Frequently (for example in Germany) the general plan has been for the banks to provide capital at the outset, then when the firm is well-established the banks would issue the stock to the general investing public.[1] In less advanced countries the banks would more often retain a large interest in a company permanently. In France the business of providing the bulk of industrial capital has been in the hands not of the ordinary banks but of specialist institutions which have not all the attributes of ordinary commercial banks.

The Continental system has certainly been much more attractive than has the English system to business men. Particularly the rather small industrial units which find it so hard to obtain long-term capital in England have looked with envy on their Continental brethren. But when we refuse to accept the theory of self-liquidating paper we need not jump to the conclusion that English bankers should emulate their Continental brethren. We must not forget that risk of loss is what the banker should always bear in mind. Long-term interests in particular industrial concerns imply substantial interest in the fortunes of the companies a long while after the initial loans have been made. It is not possible for a banker to have sufficient far-sightedness to avoid great losses once he has involved himself deeply in particular concerns. And it is difficult for a banker to be otherwise than deeply involved unless he restrains himself within some such limits as those set by the English tradition.[2] The experiences of the 'mixed banks' of Europe have accordingly not been at all happy. The last great slump (following 1929) left behind it an enormous legacy of banking losses resulting from indus-

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[1] The German system is described in Whale, *Joint-Stock Banking in Germany* (esp. Chapter II).

[2] For if he has any but a superficial interest the banker will naturally want some influence on the policy of the company. The more capital he supplies the more nearly he can make the company depend on his own views.

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trial losses. Banking losses there would have been anyway; but the authorities rightly took the view that mixed banking did much to increase the risk of severe banking crises, and in many countries legislative action has compelled the mixed banks to separate from their work as deposit banks their work as industrial investment trusts. The two functions are now performed by completely independent companies.[1] The success of British banks in withstanding the crisis naturally encouraged this process of 'purifying' deposit banking elsewhere.

Thus, although the application of general notions is bound to vary from country to country and from time to time, the present position is that English banking notions of abhorring deep interests in particular industrial concerns and preferring widespread short-term loans prevail. We may regard as typical the attitude of the banker who, refusing to encourage the foundation of great new industrial plants, sits in his bank parlour and waits for the established and successful man to come along for some temporary loan. The frequent complaint that the great branch banks are less willing than the old private banks to help the small man perhaps has its root in this increasing passivity of the bankers of the world rather than in a contrast between the private banker and the local manager. Our justification of the bankers' passivity suggests that the complaints should not be met by a revolutionary departure from the established English methods—in the direction of pre-war Continental banking. Rather the gaps now left should be filled by new specialist institutions.[2] To some extent such institutions are appearing—the Agricultural Mortgage Bank in this country and the analogous Rural Credit Banks in many other countries are examples. 'Credit for Industry' and the Bankers' Indus-

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[1] The separation of American banks from their security affiliates, though having similar results, has proceeded from rather different causes.

[2] The case for the banks embarking on the business of 'industrial banking' is cogently put in A. T. K. Grant, *A Study of the Capital Market in Post-War Britain*, pp. 184–9 and 275–90.

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trial Development Company attempt to meet similar needs in the industrial field. The other important implication of the passivity of commercial banks is in the field of Trade Cycle policy. To that subject we now turn.

V. *English Banks' Behaviour in the Trade Cycle*

Information about bankers' selection of earning assets is difficult to obtain. There are the suggestions in textbooks written for banking students and there are the published statistics. The published statistics may of course tell us very little—assets may be bundled together in quite heterogeneous groups. But by combining these published statistics with the public remarks of bankers and the little that can be gleaned from direct personal experience, we can draw some inferences about the attitudes of bankers.[1] Especially can something be learnt by watching changes in the composition of a bank's aggregate assets over time—during the life of a trade cycle, for example.

But in interpreting English banking statistics there remains another difficulty. Thanks to the overdraft system the full amount of a bank loan (and the corresponding deposits) does not appear directly the loan has been granted. Only as the borrower exercises his right and draws cheques in favour of other people (and/or withdraws cash) does the granting of the loan become apparent in the published statistics. An increase in the purchasing power which the banks are putting at the disposal of business men therefore may not show itself immediately. It will only appear as the business men use the increased purchasing power. Contrariwise, if the banks are contracting overdraft facilities newly granted, the advances figures may yet continue to rise, as a result of old overdraft facilities being exercised. Since most overdraft facilities

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[1] The analysis which a few banks publish showing the industrial distribution of their loans, while of interest for some purposes, does not help us much in our endeavour to judge the bankers' security canons.

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are granted for short periods only, the time-lag in the statistics is not long—a matter of a few months at most. It is seriously disturbing only when one is trying to relate the banking figures in a precise way to the turning-points of the trade cycle.[1]

In using pre-war banking statistics confusion can very easily arise from the quickly changing character of the published statistics, as the banking system was consolidated, and from the rapid upward trend due primarily to the growth of the banking habit. But certain features which have been marked in post-war days do appear quite clearly in the more rudimentary pre-war statistics.[2]

The outstanding feature of the available statistics is the lateness of advances in reflecting the movements of trade. Again and again this has happened. Trade has quite definitely turned upwards and advances have continued their downward trend for months—sometimes years—before turning upwards. In the most marked pre-war cycle, that culminating in 1907, the revival became noticeable in 1904 but not until late 1905 was there any marked expansion in advances. In 1920 trade turned down in the spring but advances continued expanding in the second half of the year, only going down in 1921. In 1929 the turn of advances downwards was quick; but though revival began about the third quarter of 1932 advances showed no increase until 1934 and no marked increase until 1936. The late upward movement in advances in the recent revival is the harder to explain in view of the activity of the building trade—a trade which is generally supposed to be particularly dependent on bank advances. The behaviour of advances in the last ten years in fact suggests a secular downward trend upon which the normal cyclical movement is superimposed.

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[1] Mr. Keynes made some reference to this time-lag in his *Treatise on Money* (esp. vol. i, pp. 41–3). The point was overlooked by Professor Clay in his analysis of the post-war boom and slump (see his *Post-War Unemployment Problem*, pp. 63–4), though it is not a serious drawback to his argument.

[2] I have used Mr. Goodwin's (previously mentioned) analysis of statistics for the period 1925–35. For pre-war and other post-war years I have had to use my own unpublished work.

Bills discounted and Money at Call are items which may move divergently, as when the banks have decided to hold more of the market's supply of bills—or vice versa. Such movements are in general quite ephemeral and more generally the two items both expand when the supply of bills expands, and vice versa. Before the war the supply of bills reflected mainly the volume of international trade. General expansion of world trade increased the supply of bills and the banks would hold more bills themselves and lend more to the discount houses, thereby enabling them also to hold more bills. In post-war years Treasury Bills have constituted such a large part of the total supply of bills that the movements in the two items in the bank balance-sheets has reflected Treasury debt policy rather than trade movements.

The influence of variations in Stock Exchange activity has been obscured, and has helped to obscure other movements, because the statistical treatment of advances for Stock Exchange purposes has varied from bank to bank and even within the same bank. Some loans for Stock Exchange speculation find their way into Money at Call while others go to swell Advances. It seems on the whole probable that the high level of these assets in 1910 was connected with the Stock Exchange activity of that year. In post-war years such movements are difficult to trace; but the peak in Money at Call and Short Notice in 1928 may well have been associated with that year's outburst of stock market speculation.

Taken in conjunction with the movement of Advances the most illuminating feature of English banking statistics is the behaviour of the Investments total. In the decades immediately preceding the war there was a marked secular downward trend in the proportion which Investments bore to total assets, but superimposed on that trend was clearly the same cyclical movement which appeared in post-war years. Investments have tended to contract as Advances have expanded and Investments have expanded as Advances have contracted. The total of the two together is of course by no means stable. It appears that the banks decide the aggregate of their earning assets by reference to their cash reserves and the availability of the liquid earning assets. The aggregate of Advances and Investments can generally (though not always) be regarded as fixed when the holdings of cash and liquid earning assets is given. The bankers then appear to rejoice in making as extensive Advances as are compatible with the maintenance of their security canons and then filling whatever gap remains by Investments. The banker may be regarded as passive when he sits in his parlour and waits for the state of trade to fix his advances for him; he is active when, the outlet of Advances being determined, he takes the initiative of buying securities to fill the remaining gap in his assets. The yield of securities and the state of the stock markets appear ordinarily to have no influence on the banker's willingness to hold investments. The volume of investments is fixed solely by the behaviour of the other assets. In 1907 there was an extreme case illuminating the pre-war behaviour of bankers. In the crisis of that year they sold investments in order to raise their cash ratios—despite the fact that it was a very bad time to sell securities, and despite the fact that such action on their part could only aggravate the money-market tension. During the first years of the cheap money period of the 1930's the banks had swelling cash reserves while the demand for advances and the supply of bills was falling sharply. They therefore increased their investments enormously. Since 1935 the demand for advances has expanded appreciably and there has also been some increase in the supply of bills. The banks would have responded to these changes by selling securities had it not been for the deliberate increase, by Bank of England action, in the cash basis, which has enabled the banks to take up the increasing volume of attractive assets without contributing to depression of the gilt-edged market. All the while the Bank of England has been providing the increased cash required for circulation without allowing that demand to disturb the commercial banks. The typical course of banking statistics at the end of the cycle is for the expanding demand for advances and public demand for cash together to press down the cash ratio so that the banks sell investments to maintain their cash ratio without refusing the most profitable assets—advances. These sales of securities by the banks have an important influence on the course of long-term interest rates in the boom. At the moment Bank of England inflationary action continues to postpone the day.

The complementary behaviour of the two items Advances and Investments therefore gives us two important clues to the attitude of bankers towards different classes of assets. In the first place, their willingness to make Investments a mere buffer to the varying demand for Advances shows that they rejoice in accommodating all demands for Advances which meet their customary security requirements. Advances pay better than Investments; Advances accordingly have first consideration. In the second place, the laggardness of Advances in reflecting trade-cycle movements suggests that the various phases of the cycle have to be well under way before the bankers have the opportunity to encourage or discourage the movements by modifying their attitudes. All the evidence goes to suggest that English commercial bankers, at any rate generally, are entirely passive in the trade cycle.

This second conclusion might have to be modified somewhat if it could be shown that the bankers do much to influence stock-market speculation. For stock-market changes are changes in the long-term rates of interest, and such changes may have far-reaching effects in stimulating or retarding trade. But the available figures do not allow us to draw any important inferences on this point. The bankers from time to time exert themselves to emphasize the triviality of their support of speculators. Their behaviour in making their own holdings of investments complementary to the demand for advances probably has much more effect on the course of the trade cycle than does any other operation of the commercial banks. For it supports a tendency for long-term interest rates to fall when trade is slack and to rise when trade is brisk. The changes in the rates they charge for their own direct advances to business men are generally far too trivial to have any influence on trade activity directly.

These conclusions conflict directly with the common idea that bankers create or even exaggerate the trade cycle. We have shown commercial bankers to be mainly passive. Their most important influence on the course of the cycle we have suggested to be their tendency to make Investments move inversely with Advances, and this influence is one which does not exaggerate but checks the cycle. It should be emphasized that these conclusions relate to the commercial banks, not to the central banks who control the cash basis. And they have been drawn from English evidence. The more remote are the methods of other systems from those of English bankers, the less applicable may the conclusions of this section be.

VI. *Secular Contraction of the Demand for Bank Loans*

In the preceding section we have noticed incidentally the existence of certain secular changes in the distribution of commercial bank assets. Before the war there was, for example, a marked downward trend in the investment proportion of the great English banks. Farther back there had been a fall in bills discounted while advances rose (marking the supersession of the inland bill by the bank advance). In our own day the pre-war downward trend in investments appears to have been reversed, while advances

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tend downward. This last change—the secular tendency for bank advances to shrink—has such far-reaching implications that it calls for some special discussion. It is at present not serious in England; but it has been far more marked in the United States and in Canada, and other banking systems are said to be suffering more or less similar experiences. What are the origins of this change? Of one thing we can be certain. Even if we do not agree about the general passivity of commercial bankers, the great profitability of the bank advance is such that we cannot suppose that the bankers are deliberately contracting their loans to business men at a time when bank profits are rather scarcer than usual. Moreover they themselves are continually protesting that they would be only too glad to lend more if they could find borrowers of the usual calibre. We have already seen how the security canons acknowledged in print by bankers have been widening rather than contracting the field for bank advances. It seems hardly probable that there has been any such tightening-up of rules as would reduce gross profits more than bad debts are reduced.

The causes must be sought on the other side. What of the demand for bank advances? The demand for bank advances has, I believe, been subject to secular decline for five reasons: industrial integration, the relative decline of industries peculiarly dependent on bank credit, the growth of specialist credit institutions and the development of stock markets, and the increase in cash payments in retail trade.[1] I would emphasize the conjectural nature of this analysis. Reasons for the decline cannot be certainly known until the bankers choose to take the public into their confidence on this matter which so gravely affects the prospects of their shareholders.[2] The relative impor-

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[1] I am indebted to Professor Gregory for this last suggestion.

[2] Since this book first appeared my attention has been directed to the fact that Mr. McKenna (of the Midland Bank) has, in two of his annual speeches to shareholders, made some reference to the matter.

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tance of each of the five suggested reasons varies from country to country.

Industrial integration affects the demand for bank loans through the workings of the laws of chance, if nothing else. Industrial firms, like individuals, hold balances to meet contingent divergences between receipts and outgoings. Some of these divergences are orderly, being connected with seasonal movements of one kind and another. Only the smaller of these seasonal divergences will ordinarily give rise to the holding of balances.[1] The less easily foreseen divergences are those which give rise to most of the holding of balances and their distribution is naturally a chance distribution. The more chance variations are aggregated the less is the aggregate itself likely to vary. The balance held by one big firm is therefore likely to vary relatively less than would the balances of twelve firms each one-twelfth the size of the big firm. It is but a short step from this to the proposition that, given the preference of business men to hold balances rather than overdraw their accounts, the one big firm is likely to use overdraft facilities less than the twelve small firms whose fusion constituted the one big firm. Big business means, on sheer laws of chance, small overdrafts.

There is good reason to suppose that industrial integration tends to reduce overdrafts for another reason. We have mentioned above the fact that seasonal divergences between receipts and payments will give rise to converse variations in balances only if the divergences are relatively small. A small firm, having to make provision for a seasonal excess of payments over receipts, faces the choice between holding an idle balance over the excess receipts season and overdrawing in the excess payments season. Which it decides to do we cannot decide *a priori*; but some certainly choose to overdraw in the excess payments season. The big firm, on the other hand, does not face this choice of evils. Instead of holding an absolutely barren balance

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[1] We return to this point in a moment.

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over the excess receipts season it can lend the money out at short-term—by taking up Treasury Bills, or depositing with discount houses for example. Or perhaps it will leave the money as a bank deposit standing in its own name, wringing from the bank exceptionally favourable treatment. It may even invest the money in bonds nearing maturity. The big firm can and the small firm cannot afford to do this because in the costs of investment and disinvestment there are great economies of large transactions. Thanks to its ability to secure some appreciable interest on its temporarily surplus balances, a huge firm like Imperial Chemicals need never contemplate the possibility of overdrawing in an excess payments period. This is avowedly an extreme example; but it serves to emphasize the tendency for use of overdrafts to decline as a result of firms becoming of sufficient size to enjoy economies in investment and disinvestment of short-term funds.[1]

The relative decline of industries peculiarly dependent on bank credit is probably far more important in the United States and Canada than in England. In those countries agriculture has been notoriously dependent, apart from limited government aid, on the banks for a large part of its capital. The manufacturing and (in Canada particularly) the mining industries which are nowadays bulking relatively larger in their national economies have been able to finance themselves largely by tapping the stock markets. The relative decline of agriculture has meant a relative contraction in the bankers' best outlet for loans bearing high rates of interest.

Agricultural outlets for loans have also probably been those most affected by the rise of specialist credit institutions. These institutions—such as agricultural mortgage 'banks'—have arisen frequently with government support specifically to meet needs which the bankers were unwill-

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[1] Mr. Keynes suggests (*Treatise on Money*, vol. i, p. 42) that the bigger firms make more use of the overdraft. If this is so the bank advances statistics are all the more difficult to explain.

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ing to meet. The same applies to new establishments like 'Credit for Industry' which are designed to provide medium- and long-term credit for small firms. To the extent that these specialist institutions are meeting needs which were not met before, the banks are of course unaffected. But it seems probable that some of the needs they meet were previously met by the banks who would in a grudging spirit make illiquid loans rather than disoblige good customers. To the extent that this is so the banks have of course gained in liquidity and perhaps in avoiding bad debts—but at the expense of substantial gross profits.

The development of stock markets has probably had some influence in reducing the industrial demand for bank loans especially at times of stock exchange boom. A boom in ordinary shares—or common stocks the Americans would say—enables companies to obtain more capital in exchange for a mere prospect of a share in future net profits. This was of course always so, but the public appetite for ordinary shares was almost certainly greater in the 1928–9 Wall Street boom than it had ever been before. Under those circumstances it often paid well-known firms requiring more funds temporarily to issue more shares, placing the money on time deposits (which usually yield some interest) in the excess receipts periods. The ease with which capital could be raised in the stock market in America in the late twenties may well have accounted for much of the simultaneous growth in time deposits and failure of commercial loans to expand to the extent which might have been expected.[1]

Such I imagine to have been the causes of this disease which appears to threaten advanced banking systems. But whatever the causes the results are clear enough. The bank advance (commercial loan) is the asset which pays the banker at the highest rate. A decline in the proportion which Advances bear to total assets implies a fall in the banks' income. If net profits are to be protected against this pressure on gross income one of four things must happen: total assets must be increased, other highly profitable assets must be sought, outgoings must be reduced, or bank charges must be raised.

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[1] I do not wish to emphasize this point. Our knowledge of the great American boom is still far too limited for such inferences to be drawn with certainty.

If the average return on assets is reduced by a fall in the proportion of high-yield assets the aggregate return can be supported by increasing the total volume of assets. This is, in fact, what happened in the United States, in Canada, and in England alike in the last ten years. But as we have seen in earlier chapters the aggregate of bank assets is closely regulated by the supply of cash, which is beyond the control of the commercial banks. It is unlikely that the increase in the supply of cash will continue much longer, and if it stops the banks can do nothing about it. The expansion of total assets has in England probably been sufficient to support bank net profits at pre-depression levels; but if the demand for bank loans continues its secular decline the bankers will have to look elsewhere for a prop to profits.

The second escape for banks is to find other highly profitable assets. This was the line taken only too often in the United States in the nineteen-twenties. The pressure on profits may drive the bankers to relax their security canons and embark on rash ventures. The support given by many American banks to the real estate boom is a case in point. It may be that there are some safe outlets yet to be discovered; but in general we may I think regret that pressure on profits should oblige the bankers to seek out borrowers they would have frowned upon in earlier days.

Outgoings may conceivably be reduced in either or both of two directions. The banker's outgoings may be divided into interest paid on deposits and expenses of administration. The payment of interest on deposits had its origin in the bankers' attempts to encourage the banking habit and is still largely based on that notion. There is accordingly (we are assuming that bankers are aiming at life, not death!) some case for continuing such payments. But it is possible that banking habits are sufficiently firmly established to allow some reduction. They stand now at extremely low levels—$\frac{1}{2}$ per cent. and 1 per cent. per annum are common rates—so that short of abolition there is little room for further reduction. It is true that bankers might benefit from dearer money days by refraining from raising their deposit rates as interest rates generally rise. The question of the future of interest rates then arises—a question which would take us much too far afield. The last possibility is the reduction of expenses of administration. This is essentially a question of efficiency. We may joke about the number of tiny bank branches which have been opened since the war; but we should at the same time remember the enormous growth of housing estates for which the banks try to cater. We may think the bank employees enjoy high wages considering their technical qualifications; but we should remember that the banks must pay a price for unquestionable honesty. They must employ people whom the public will accept as honest. And members of the public look for good manners in the men with whom they do their financial business. All these things have their price. There may be unrealized economies of large-scale operation *behind* the counter. But unexploited opportunities for economy are not so blatant as may be superficially suggested.

The last possible escape for the banks is to raise their charges. Their charges[1] are of two kinds—interest rates charged on overdrafts and turnover charges for working an account (i.e. making transfers of deposits—clearing cheques for customers).[2] Raising either of these charges would at present meet with great opposition; though if banking profits were more obviously declining the banks might be able to convince the public of the necessity of such charges. But against raising overdraft rates a bank always has to remember the competing sources of funds for the business man. A relative rise in overdraft rates might well hasten the secular decline in the demand for overdrafts which is the source of all the trouble. In considering charges of the other kind the banks must always beware of effects on the banking habit. Small customers may be capable of understanding the cost which a bank incurs in running an account; but the customer has open to him the alternative of not having an account at all or only using it very little—making more use of cash. The bankers must go warily about raising charges. There may be a virtual monopoly of banking in this country; but there is certainly monopoly neither of the source of loans nor of methods of settling debts.[1]

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[1] I exclude here the interest receivable on bonds, discount on bills, &c., which are not under the control of the banks.

[2] The latter charge is frequently replaced by an arrangement that the customer should maintain a certain average or minimum balance. This in effect reduces the interest payments the bank would have to make, as in

In America the profitability of the commercial banks has been further undermined by the raising of the cash ratios to double their pre-depression level. Times are already lean for them and in the absence of reversal of present trends their future is by no means bright. In Canada and in England things have not become so desperate, the expansion of total earning assets having more or less sufficed to meet declining average returns. In England at least it is difficult to know exactly what is happening to banking profits—so little can be told by a bank's published profit and loss account. There are signs that the English banks have been feeling some pressure—mechanization proceeds apace, the opening of new branches

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the absence of such arrangements the customer could transfer some of his balance to deposit account. The arrangement virtually provides for a balancing of interest against the charge.

[1] It is quite likely that the eventual reaction of the banks to a decline in the profitability of their *loan* business will be a general scaling-up of their charges for 'ledger-clerk business'. It should be possible, *in time*, to accustom the public to this.

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has slackened somewhat, and one occasionally hears some instance of an upward pressure on charges, a downward pressure on deposit interest. At the same time there has been a disposition to widen the field for overdrafts. Within limits this is safe enough—for we have seen that traditional canons were unduly restrictive. But English bankers are likely to bear in mind the unhappy outcome of foreign bankers' more venturesome conduct. It can by no means be taken for granted that commercial banking as we know it to-day can always be run at a profit.

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CHAPTER X

THE DISTRIBUTION OF DEPOSITS[1]

I. *The Classification of Deposits*

WE now turn from the transactions which give rise to the existence of bank deposits to certain aspects of the deposits themselves. The economic significance of the creation of bank deposits is based on the power of a person disposing of a bank deposit to attract real resources. A large proportion of the total bank deposits is in practice being continually used to attract real resources, either to the final consumers or to the business men who intend to push those real resources one step nearer to final consumption. These deposits may be described as Income Deposits and Business Deposits. Their total has been called Cash Deposits. Cash Deposits alone are being continually turned over in settlement of debts and some authorities prefer to give the title of Money to no bank deposits except these Cash Deposits. The remaining bank deposits are held not for current business or income purposes but as *investments* or *savings*, and they are commonly called Savings Deposits. They are held not to meet the needs of the near future, but as part of that total stock of wealth which individuals look upon as their savings or private capital.

To any one who has grasped the true nature of the demand for money balances for income-spending and for business purposes (the Cash Deposits) it will be apparent that the distinction between that part of the demand for money and the other part of the demand—the part satisfied by the holding of Savings Deposits—is a distinction of degree. All money is held for contingent excesses of payments over receipts. There is no sharp line between the balance I hold in case I have to go on an unexpected long railway journey next week and the balance I hold in case I have to meet a heavy doctor's bill next year. The fact that it is a distinction of degree must be borne in mind throughout this chapter. Yet the distinction is sufficiently marked in common usage. From one part of his balance the individual looks for no advantage but the convenience which it affords him directly. From the other part—his Savings Deposits—he is inclined to look in addition for some small interest gain, and may be prepared to 'invest' it if an attractive opportunity arises.

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[1] This subject is discussed in detail by Mr. Keynes in his *Treatise on Money*, especially chaps. iii and xxiii, on which this chapter is based.

The Savings Deposits are by definition not turned over at all. If a man wants either to pay the doctor's bill or to buy government bonds with his Savings Deposits he transfers some of his Savings Deposits to Cash Deposits, and then settles the debts he has incurred. Conversely, if a man decides that his cash deposits are unnecessarily large and he sees no better investment opportunity, part of his cash deposits become savings deposits. Savings deposits are essentially *idle* deposits or 'hoards'. It is important to remember that whether deposits standing in a man's name are to be Cash Deposits or Savings Deposits is directly decided by the man, not by the bank.

The distinction between Cash Deposits and Savings Deposits corresponds in a very rough way to the distinction in English banking practice between Current Accounts and Deposit Accounts, and in America and elsewhere between Demand Deposits and Time (or Notice) Deposits. Not at all exactly, for some of the current account balances are not really Cash Deposits. For example, the minimum balances often maintained on current account to induce the bank to work the account without charge are really Savings Deposits, maintained because the individual enjoys, apart from possessing that private wealth, the advantage of a 'no-charge' current account. When interest rates offered by the bank on Time Deposits are very low people are inclined to leave inactive balances—which have really become Savings Deposits—on Demand Deposit, because the low yield makes the bother of transfer and retransfer not worth while. When small income-receivers who cannot afford a current account minimize their cash holdings by working a deposit account up and down from month to month—looking to the account for convenience rather than interest—the balance is practically a Cash Deposit. In the nineteen-twenties some American banks are said to have allowed unrestricted drawing of cheques on Time Deposits—those deposits were then really Cash Deposits. But broadly speaking, the Demand Deposits (Current Accounts) figures may be taken as corresponding to the Cash Deposits. And the Time Deposits (Deposit Accounts) may be taken as corresponding to the Savings Deposits. At any rate a change in the proportion of Demand Deposits to Total Deposits may be taken as indicating a change in the proportion of Cash Deposits to Total Deposits.

II. *The Proportion of Cash Deposits to Savings Deposits*

The decision that a given bank deposit shall be a Cash Deposit or a Savings Deposit is, we have already seen, made not by the bank but by the customer in whose name that deposit stands. The deposit may, in fact, change its character without the customer notifying the bank; but it is more likely that such a change will take the form of a transfer from Demand Deposits to Time Deposits (or vice versa). The banks will transfer balances from one of their own classes to the other without hesitation—they leave the distribution of deposits entirely in their customers' hands. The banks decide the total volume of deposits; but the public, directly at least, decides the distribution between the Cash Deposits and Savings Deposits categories. What factors guide the public in determining the distribution?

To the individual the distinction between the two categories lies in the fact that whereas the Cash Deposit is expected to afford convenience only, the Savings Deposit must in addition bear comparison with alternative uses—in investment—in its ability to yield an income. This second attraction of the Savings Deposit constitutes an inducement to the individual to keep his Cash Deposit at the minimum consistent with convenience, just as the attractions of other classes of private wealth (final consumption goods and 'investments') are factors continually depressing the individual's willingness to hold bank deposits of any kind. Individuals will therefore keep their Cash Deposits—the total of which is under their own control—at the convenient minimum dictated by the receiving and spending habits, the level of prices, and so forth. The total of Income Deposits accordingly directly reflects, given habits and customs, the general level of money incomes and of prices. Similarly the total of Business Deposits, given business men's habits, trade customs of payment and credit arrangements, directly reflects the level of business activities, raw material, and manufactured goods prices, wage-rates, and so forth. Expanding trade and rising money incomes and prices are associated with expanding Cash Deposits, while contracting trade and falling money incomes and prices are associated with declining Cash Deposits.[1] We may go so far as to say that given business customs, the level of Cash Deposits is proximately determined by the level of prices and the state of trade.

If the banks have determined the total of all deposits and the total of Cash Deposits is determined by the state of trade, &c., then the total of Savings Deposits is automatically determined—for Savings Deposits are by definition All Deposits *minus* Cash Deposits. The total of Savings Deposits is not directly controlled by the bank's customers at all. In fact, given the state of trade, &c., in which the volume of Cash Deposits is implicit, the banks themselves determine the volume of Savings Deposits when by their operations in acquiring assets they determine the volume of All Deposits.

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[1] The direct connexion between the state of trade and the demand for cash balances is modified by the common disposition to grant credit more freely in times of good trade, though the anxiety of some producers to extend credit rather than not sell at all in depression partly counterbalances this. The same considerations affect the demand for Advances in the various phases of the Trade Cycle.

Yet the banks cannot force Savings Deposits on people. Nor can they cancel the Savings Deposits standing in the names of their customers. How then can they regulate the total of Savings Deposits? The answer has already been given in Chapter I. They can *induce* people to change the distribution of their wealth between Savings Deposits and other assets (government bonds, industrial debentures, shares, &c.) by offering the public a more or less attractive price for certain classes of those other assets—in particular government bonds. Given the public's preference for a certain liquidity distribution of their assets of all kinds, the banks can expand Savings Deposits by offering higher prices for government bonds (which implies forcing down the yield thereon) so as to make people decide to hold more Savings Deposits (the yield of which is now nearer to that on government bonds, and whose future capital value is certain) and less government bonds. Conversely the banks can reduce the volume of Savings Deposits by offering to sell government bonds at sufficiently lower prices. Government bonds now increase their attractions relatively to those of Savings Deposits and the public will be satisfied with less of the latter and more of the former. The implication of this analysis is that given the state of trade, the level of prices and money incomes, the public's business habits and the public's scale of preference for assets of different types, purchases of securities by the banks forces down the yield on gilt-edge securities, and sales of securities by the banks forces up the yield of securities. So far we have only repeated, in more complicated and accurate terms, what has already been said in earlier chapters. It is worth remembering that we showed in Chapter VI how a change in the yield of gilt-edged securities may influence the state of trade and prices. A change in the state of trade, &c., may affect the public's scale of preference for assets of different types. When we

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take these two factors as given we are therefore leaving the analysis unfinished and closing our eyes to the fact that the initial action of the banks has very wide repercussions in upsetting the equilibrium. To some of these further repercussions we can now give some attention.

Suppose that at the outset all the directly relevant factors are in equilibrium with each other—the Cash Deposits, the Savings Deposits, the public's scale of preference for different assets, the state of trade, the price level, the internal position of the banks, and so forth. In our last case we then supposed an internal change in the banks leading to their purchase or sale of securities. Now let us suppose the banks remain in internal equilibrium, but that some change extraneous to the banking system initiates an improvement in trade, with rising prices and money incomes.[1] The public will want more cash deposits. Given complete rigidity in bank assets the change must come about by the business men who initially want more bank deposits selling securities directly or indirectly to the people who are induced, by more attractive security markets, to reduce their hoards of Savings Deposits and increase their holdings of securities. Their deposits are handed over to the business men who use them as Cash Deposits, which they remain as they are scattered over the economy in the form of increased money incomes and prices.[2] The increased Cash Deposits can be supplied thus without any action on the part of the banks themselves. The proportion of Cash Deposits to Savings Deposits is increased—at the expense of some depression of 'the general level of security prices'. (In this omnibus phrase we conceal for the moment some complications to which we shall return in the next chapter.) The banks are essentially 'passive' to the change.

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[1] The possibility of such a completely extraneous change is admitted by every plausible theory of business fluctuations. In Wicksellian terms I am supposing a rise in the natural rate of interest while the market rate of interest remains unchanged.

[2] Business Deposits rise first, then Income Deposits.

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As the trade expansion gets under way the banks will, however, be met with increased offers of attractive assets—there will be an increased demand for advances. This demand for advances may be met by the banks selling securities. In effect, this means that part of the new Cash Deposits are obtained for the business men by the bankers, who allow Cash Deposits to be expanded by expanding advances as they contract Savings Deposits by selling bonds to people who had held Savings Deposits. The amount of pressure on the securities market is the same, whether the business men obtain deposits by selling securities to the public or by borrowing from the banks which do the selling of securities to the public. Cash Deposits go up to meet increased business needs, and given no change in the banks' total assets, Savings Deposits must go down by the same amount—which is also the value of the new securities held by the investing public. The expansion in the active part of bank deposits, if the banks decline to change their total assets, inevitably sets in train an upward movement in interest rates. As trade and incomes expand there is also certain to be some expansion in the public's demand for cash. If the monetary authorities are not prepared to expand the total supply of cash to meet these increased needs, the cash reserves of the banks are reduced. This causes a contraction of their total assets, and since the volume of Cash Deposits is decided by the public, the contraction must be confined in the first instance to the Savings Deposits. Savings Deposits are contracted by the banks selling securities to holders of Savings Deposits. The demand for cash, therefore, tends to accentuate the tendency for interest rates to rise.

The argument may be easily adapted to describe the reverse process. Contracting trade leads to contracting Cash Deposits, Savings Deposits rise as the banks buy securities, forcing up the prices of the securities they select and forcing the rate of interest down. An influx of cash into the reserves of the banks from circulation reinforces the banks' efforts to expand Savings Deposits, reinforcing the tendency for interest rates to fall.

The movement of interest rates which is produced in either case tends, in the tortuous way described in Chapter VI, to reverse the movement of trade conditions. That is the way in which an absolutely stable volume of total bank deposits tends to put the brake on any decided upward or downward movement of trade. It should of course be remembered that flourishing trade can for some time stand rising interest rates, and contrariwise falling interest rates may for long fail to stimulate a trade revival.

If the monetary authorities wish to prevent, at least for a time, the operation of this monetary governor of trade conditions, they must be prepared to expand or contract total bank deposits to keep pace with the public's expansion or contraction of the Cash Deposits. If the banking system will, in a trade expansion, take from the public the indebtedness (securities) which the public offers in exchange for the additional bank indebtedness (deposits) it wants for carrying the increased volume of business, then no pressure of supply forces down the price of securities. And contrariwise for the opposite case. Such decisions the banking authorities can make: the commercial banks may be tempted, by the change in the supply of desirable assets, to change their cash ratios, and more seriously the central bank can operate on the cash basis. The fact that the public has direct control over the volume of Cash Deposits does not free the banking system from great responsibilities in influencing economic conditions.

Some economists have preferred to treat these changes in the proportion of active to inactive deposits as changes in the velocity of circulation of bank deposits. The difference is one of formulation only. If we prefer to do so, it is perfectly legitimate to talk of trade activity implying an increase in the flow of money coming into the market in exchange for goods. If the volume of money remains unchanged an increased velocity of circulation will have occurred. Uncomfortably high velocity induces the public to lower their valuations of non-monetary assets. The banks can proceed to restore velocity of circulation to normal and keep interest rates down by adding to total deposits, or not—the conclusions are unaffected by the particular formulation we choose. I have preferred to use the classification-of-deposits formulation because it appears more realistic to me. It takes account of the two quite different purposes for which people do in fact hold bank deposits, and by picturing private wealth as consisting of Cash Deposits, Savings Deposits, and other assets, it enables us to see the operations of banks in their true light as a continual process of exchanging indebtedness between the banks and the public.

III. *Deposits Classification and Legal Cash Ratios*

A feature of central banking legislation in the United States and in other countries which have been influenced by American legislation (New Zealand provides the most recent example) is that the cash ratios, which the commercial banks are obliged by law to maintain, vary according to the classification of deposits. In America, for example, the cash reserves to be held must be 14, 20, or 26 per cent. against Demand Deposits, but only 6 per cent. against Time Deposits. This system of adjusting the cash ratios to the classification of deposits dates from a time when legal minimum cash ratios were regarded not as a device for giving control to the central bank but as a protection for the depositing public against illiquid banks. It was considered that as banks could insist on, say, a month's notice before Time Deposits could be exchanged for cash the proportion of cash to be held against them need not be anything like so great as that held against deposits exchangeable for cash on demand. Into the propriety of this arrangement from the point of view of protecting the public against bad banking we do not propose to go here. We are concerned rather with the effect of the distinction on the relation between commercial bank policy and central bank policy.

As long as the proportion of Demand Deposits to Total Deposits remains unchanged the different ratios cause no disturbance: it is as though one flat ratio (a weighted average of the two legal ratios) were applied to the Total Deposits. The different ratios become a complicating factor once there is a change in the proportion of one class of deposits to the other. If there is a shift from Demand Deposits to Time Deposits the legal cash reserves required decrease. Given unchanged cash reserves the banks have an inducement to expand total deposits. Conversely a shift from Time to Demand Deposits sets in train a contraction of total deposits. Is this automatic result of a shift in proportion a desirable feature of a modern banking system?

In answering this question we shall cover most of the ground if we take three cases of a shift in the distribution of deposits: (1) the Trade Cycle movement, (2) a secular change in the public's scale of preference for Savings Deposits and other classes of assets, and (3) a change in the proportion of Demand to Time Deposits which does not reflect a true change in the proportion of Cash to Savings Deposits.

(1) In periods of trade expansion there is an automatic shift from Savings Deposits to Cash Deposits. This necessitates an increase in the average cash ratio so forcing the banks (in the absence of cash expansion) to curtail Savings Deposits even more, implying a more abrupt rise in interest rates than would otherwise occur. Conversely trade decline implies a shift away from Cash Deposits, a drop in the average cash ratio, and a more abrupt decline in interest rates than would otherwise occur. Since these movements of interest rates tend (as shown in Chapter VI) to reverse the trade movements the operation of this system tends to check the development of Trade Cycles: a point in its favour. The extent of this advantage depends on the extent

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to which we favour the interest rate weapon for combating the Trade Cycle.

(2) Now suppose a secular change in the public's scale of preference for Savings Deposits and other classes of assets. Suppose, for example, that there is increasing confidence in the banking system coupled with public realization of the inefficacy of the law in protecting the ordinary investor from the clutches of shady company promoters and 'share sharks'. Then people may prefer to hold more of their accumulated wealth in the shape of bank deposits (Savings Deposits of course) and less in securities. Then, instead of public purchase of securities passing cash deposits into the hands of entrepreneurs involved in capital construction, there would be a continual flow from Cash Deposits to Savings Deposits, the entrepreneurs failing to secure enough money to sustain their operations. To support economic activity at equilibrium level it is desirable that the banks should sustain Cash Deposits by buying securities (or making advances to the entrepreneurs) to the amount of the increase in Savings Deposits. If the public wish to accumulate wealth through the banking system it is desirable that the banking system should see that no passivity of its own hinders the process of real capital accumulation. Now the operation of the system we are discussing aids this process. For as Cash Deposits fall and Savings Deposits rise the required cash ratio falls, so that the amount of cash inflation which the central bank needs to do is reduced. Some additional cash basis is still required, for if Cash Deposits are to be sustained the cash basis must be swollen by the amount needed to support the increase in Savings Deposits. Here again as in our first case (from which this case is not really clearly marked) the operation of this system of cash ratios tends to reduce the volume of cash manipulation which the central bank needs to do to keep the economy in equilibrium.

(3) Lastly we will take the case of a change in the distribution of deposits which is nominal but not real. We

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have suggested above that the distinction between Savings Deposits and Cash Deposits is not identical with the distinction between Time Deposits and Demand Deposits. It is possible for Time Deposits to increase or decrease (total deposits remaining unchanged) without there having been any genuine change in the proportion of Savings Deposits to Cash Deposits. This might occur if a change in customary methods of charging bank customers led to a reduction in the minimum balances which many English bank customers keep in their current accounts. Another good example is said to have actually happened on a large scale in the United States in 1924–9: in order to reduce the cash reserves they were required by law to keep, banks are said to have induced customers to transfer balances to Time Deposits by allowing them to draw cheques freely on those deposits—i.e. treating them as Demand Deposits. Here we have a case of the complex cash ratio system actually stimulating a change which reflects no genuine change in the economic condition of the country. In either of these cases (and contrariwise in conceivable opposite cases) the banks' cash needs are reduced and they are stimulated to increase total deposits—acquiring assets and forcing interest rates down—without there having been any such change as occurred in our other two cases to make an increase in total deposits desirable. The banks are enabled by the complex cash ratio system to free themselves from the fetters with which the central bank restrains them. Of course the central bank can soon bring them to heel by reducing the cash basis in accordance with the reduction in cash needed to support the original volume of total deposits. But it may not know precisely what is happening.[1] And even if it knows what is happening it may consider it a nuisance to have to use some of its ammunition (securities to be sold) for such a trivial purpose. Or it may, if the country is not enjoying an obvious boom, be positively embarrassing for the central bank to sell securities (an operation generally understood as deflationary) in order to offset the economizing of cash reserves. In any case the possibility of such changes has the undesirable effect of obscuring the central bank's view (and that of outside experts) of contemporary conditions.

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[1] It may be aware of such changes going on; but it cannot know how far a known change in Time Deposits is due to this factor and how much to other far more fundamental changes.

From the point of view of control of commercial banking there are thus arguments for and against the complex cash ratio system. Our decision must rest on the relative importance we attach to the conflicting arguments. Being inclined to set a low value on interest rate movements as a weapon to combat the Trade Cycle, and being inclined to emphasize the importance of correct diagnoses by the central bank—and therefore to rate as a serious disadvantage anything obscuring the view or complicating the situation—I myself prefer the simple system. Other writers, setting a higher value on interest rates as correctives of trade fluctuations, would perhaps decide in favour of the complex system.

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CHAPTER XI

THE PROBLEM OF STOCK MARKET CONTROL

I. *Nature of the Problem*

In the previous chapter and at some earlier points in the book we have referred to the action of banks as tending to raise or depress 'the general level of security prices' and have spoken of the movements of security prices as though they were completely uniform. Uniform movement of security prices depends on there being no change in the public's scale of preference for different securities. This is a highly artificial assumption: we have already indicated that any influence which tends to improve or depress the state of trade is likely to have repercussions on the public's scale of preference for different securities. We must now look into the matter closely and discuss certain important problems of policy which arise therefrom.

We may confine our attention to those securities which enjoy a market in the Stock Exchange. The initial analysis may be easily applied to those securities whose markets are more restricted, and it is only the great development of the market for Stock Exchange securities that gives rise to the problems of policy which we shall discuss in this chapter. These Stock Exchange securities may be divided for this purpose into four classes: government bonds, industrial debentures, preference shares, and ordinary shares (common stocks in American parlance). This classification is not exhaustive—there are other classes of securities dealt in on the Stock Exchange which may be ignored here. Nor is the classification anything like sufficiently detailed for all the purposes of economists; but for our immediate concerns this simple fourfold classification is, I believe, appropriate. Let us consider for a moment the main influences governing the prices of these classes of securities.

Market valuation will depend upon factors of two kinds. First there is the universal factor, public preference for present money as compared with future money, which we may call the rate of interest factor—governing the rate at which a given expected yield will be capitalized. Second there are the expected yields of the individual securities, expectations which will be associated with varying amounts of uncertainty—these we may describe as the yield expectation factor. Now it is clear that whereas changes in the rate of interest factor can cause parallel movements only in the prices of all securities, changes in the yield expectation factor can cause—in fact, are certain to cause—divergent movements in the prices of different securities. Now the banking system can operate on the rate of interest factor only—by putting at the disposal of the public more 'spot' money. But the actual market prices of securities are determined by the joint operation of the rate of interest factor and the yield expectation factor. And it is the structure of actual market prices which is of significance in influencing the uses to which real resources are put. In talking of 'the general level of security prices' as though all security prices moved uniformly we were taking into account the rate of interest factor only. We must now make our analysis more realistic by taking account of the behaviour of the yield expectation factor.

We must consider this yield expectation factor in relation to each of our four broad classes of securities. On government bonds, assuming that there is no risk of default, no uncertainty arises. The future yield is known and is invariable for the life of the bond. Given the terms of the bond the yield expectation factor ceases to be a variable and movements in bond prices occur only as a result of changes in the rate of interest factor. The yield expectations for industrial stocks (of all three classes) on the other hand are dependent upon highly variable factors—the profitability of industry and the optimism or pessimism of the investing and speculating public. The way in which

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each separate class is affected depends on the order of their claims on industrial profits. Debentures have first claim, failure to meet which may have dire results for the management of a company. Preference shares have next claim and ordinary shares are entitled only to the residue. The claims of debentures and preference shares are, of course, always limited to a percentage of their nominal values. For these reasons ordinary shares are generally[1] most sensitive to expected changes in profits. The expected yield of debentures and preference shares can only vary when the expected profits are insufficient to cover their claims so that there is risk of default. Owing to the prior claim of debentures expected profits have to fall lower to affect debenture prices than they have to fall to affect preference share prices. To take the limiting cases, if the public feels *absolutely certain* that future profits will always suffice to meet the debenture claims then the prices of the debenture stock will only change as a result of changes in the rate of interest factor. And if the public feels *absolutely certain* that future profits will *also* suffice to cover preference share claims, then the preference share prices will only change as a result of changes in the rate of interest factor. Since, on the other hand, ordinary share claims are unlimited, the prices of ordinary shares are always necessarily subject to change as a result of change in the expected profits.

Confidence in the coming of trade revival or fears of contracting trade affect the prices of these securities because they affect the public's willingness to bear uncertainty as well as the actual profit prospects. In a deep depression many companies will have passed[2] or reduced dividends on ordinary shares, some will have passed

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[1] The exception occurs when the profits are expected to vary round a level far below that necessary for meeting the prior claims of debenture holders and preference shareholders. There is an analogous exception to the general rule about the prices of preference shares.

[2] The reader should perhaps be warned that the phrase 'passing a dividend' means 'failing to pay any dividend'.

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dividends on preference shares, and fewer will have defaulted on their debenture obligations. The course of prices of particular securities will depend upon whether companies have fallen into one, two, or all three of these categories. Securities of the last group (complete default) will show rises of price first for debentures, later for preference shares, and for ordinary shares only as expectations of revival become much more widespread and more optimistic. In the second group debenture prices will be relatively little affected (only by the risk of future default declining) but preference share prices will rise at an early stage and then ordinary share prices. In the first group, prices of ordinary shares alone will show any great movements (always abstracting from the rate of interest factor). The deeper the depression has been (and therefore the more companies have fallen into the last group) the more closely will security price movements accord with the following pattern: first, rising debenture prices; second, slackening in the rise in debenture prices, preference share prices rising sharply, and ordinary share prices brightening somewhat; third, sharp and continuing rises in ordinary share prices while prices of prior stocks almost cease to be affected by the yield expectation factor. If the trade revival is at the outset expected to go far the first and second periods will quickly pass; but if expectations change gradually and cautiously the earlier periods will be more prolonged.

The reader may reverse the argument to apply it to the effect of developing fears of trade recession. Ordinary shares suffer first and most, then the prior stocks in inverse order of priority.

So far all is completely rational. We have found ample cause for divergent movements of the prices of securities of our four classes. But I believe I am right in saying that so far no new problems of policy arise. There need be, on the face of it, no increase in stock market activity—though there would be if opinion of the future state of trade were sharply divided. The prices are simply adjusted to the change in yield expectations. While, as a result of banking operations, prices of government bonds may have been going down, prices of industrial securities and particularly of the ordinary shares may have been rising sharply —or vice versa. There is one serious problem which we have already faced: since the industrial security prices will be those directly affecting the marketability of new industrial securities, the industrialist may be able to raise new capital with increasing ease despite the depressing influence of the rate of interest factor. Accordingly the banking system must force the rate of interest up a long way before trade is seriously retarded, if trade improvement is expected. This is simply a reformulation of the shortcomings of the banking system's rate of interest policy which we discussed in Chapter VI.

But further difficulties are alleged to arise as a result of the rational movements of security prices being accentuated by the irrationality of the investing and speculative public. The root of the matter is our inability to resist infection by those waves of optimism and pessimism which have played so large a part in the theory of industrial fluctuations. When industry is depressed it is difficult to take other than a gloomy view of the future prospects. When industry is booming we look ahead through rose-coloured spectacles. Our willingness to bear uncertainty varies directly with the prosperity of the country. An identical prospect is much more highly valued in boom than in depression. The consequence is that, as expectations of trade revival increase and are realized, there are divergent movements in security prices beyond those we have already discussed: the prices of the more risky securities rise relatively to the prices of the less risky securities. This is apparent in the divergent behaviour of the prices of our four classes of securities. Place them in ascending order of riskiness: government bonds, debentures, preference shares, ordinary shares. Then the irrationality which distorts our valuations

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produces in a revival tendency for the prices of securities of any class to rise relatively to prices of those in classes placed earlier in the series, and to fall relatively to prices of classes placed later in the series. And contrariwise in a slump. Nor is this all. Within each of our classes of industrial securities there are the securities of diverse companies—good, bad, and indifferent, cautious, venturesome and rash, spotless, reputable and shady. And what is true of our four original classes of securities is true of the cross-classification we are now suggesting. If we arrange companies in ascending order of rashness, we find the irrationality of the investing and speculative public producing a tendency in trade revival for the prices of securities of the rasher and shadier ventures to rise relatively to the prices of the more cautious and reputable companies' shares.

For these reasons the range of prices of ordinary shares between boom and slump is enormous—far greater than it would be on any rational basis. And secondly the prices of securities of rash ventures rise to irrational heights in boom, and vice versa. These exaggerated movements show themselves in the extremes of stock market behaviour: indeed they are accentuated by the ease of speculating in the stock markets. The extremes of bull speculation on the Stock Exchange in a boom may be alleged as a source of difficulty for the banking authorities on two closely connected accounts. Firstly, borrowing of money by the 'bulls' leads to an extreme rise in short-term rates of interest in the financial centre, drawing into speculative markets funds which are needed by 'legitimate industry and trade'. Secondly, the relative ease of floating rash ventures stimulates the direction of an unduly large proportion of national resources into ventures of that class. These two problems might conceivably be interpreted as two aspects of the same fundamental problem; but as usually understood the problems are in fact quite different. The first deals with the complete *abstraction* of money

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from use in the employment of real resources. The second deals with the *diversion* of money from sensible uses for resources to silly uses for resources. The first alleged problem I believe to be almost wholly illusory, and the next section of this chapter will expose the fallacy which I believe to be at the root of the matter. The second problem I believe to be far more real and to be a very serious problem for a capitalist society. To a discussion of that problem the last section of this chapter will be devoted.

II. *The Alleged Absorption of Money by the Stock Markets*

The alleged absorption of money by the stock markets occurs because on a rapidly rising market it pays 'bulls' to borrow money for speculative purchases at very high rates of interest, the rapid capital appreciation being expected to cover the high cost of borrowing. The argument therefore depends at root upon the 'bulls' *needing to borrow*. Hence the far greater prominence of the problem in New York, where the settlements are daily, than in London where the speculative markets have fortnightly settlements. Indeed one cannot help thinking of this problem mainly in terms of the Wall Street experience of the late twenties. There call and other short money rates rose to enormous heights, with the result that it paid banks in the interior of the country, and indeed in the later stages banks in many other parts of the world, to lend money in the New York market rather than employ it at the more customary rates charged to borrowers nearer home. And this was the burden of the country's complaint—the farmer, the manufacturer, and the small trader felt that to secure loans which they could put to 'sound' use in the employment of factors of production to make useful things, they must bid highly enough to compete with the absurdly high rates of New York. The force of this public opinion was apparently sufficient to make the Federal Reserve authorities loath to

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damp the boom by forcing interest rates up as far as many experts thought desirable.

The existence of certain relatively 'depressed areas' in the United States throughout the period and the prevalence of this belief that the bloodstream of the body economic was being dammed up in the heart tended to blind many people, both in the United States and elsewhere, to the fact that America was involved in a violently inflationary boom. Subsequent events have altered views, and it has become plain that the drain of funds into Wall Street did not involve the starvation of 'legitimate trade and industry'. On the contrary, there is every indication that 'legitimate trade and industry' found it too easy to obtain capital.[1] How is it that the drain of funds to the financial centre does not imply inadequate funds for the more fundamental activities?

The answer is that whenever money is spent by a speculator in the purchase of a security some one else, selling the security, receives money. A purchase implies a sale. Money coming in through the hands of 'bulls' becomes money going out through the sellers of securities. That is not quite the whole truth. It may be argued that the greater volume of transactions in the stock market necessitates the holding of larger average balances, just as the enlargement of the national income in a period of expanding trade necessitates an expansion in the total of cash deposits and circulating cash. To some extent this is true. Brokers and money-dealers in the call money-market may want to hold rather higher average balances when the turnover becomes much bigger. Banks, where there are many of them, may think it necessary to hold rather larger cash reserves to meet adverse clearing-house balances. But experience shows that the financial institutions can, in fact, thanks to their geographical concentration and the highly developed clearing arrangements, cope with an enormously increased turnover with very little increase in balances. To the extent that they do need increased balances the money flowing to the financial centre does stay there; but the bulk of it is rapidly passed on by the dealers in the market to the sellers of securities. These securities are likely to be in the first place old securities. The sellers of them, if they distrust the boom development, might conceivably hold the proceeds as Savings Deposits, in which case there will have been some genuine tendency for money to be withdrawn, as the Stock Market speculation develops, from active use. But it is humanly certain that this will not be the end of the story for long: optimism is infectious and the bullishness is likely to become wellnigh universal.[1] In that case, old securities may change hands many times at rising prices but most original holders of old securities will be induced to part with them, to the 'bulls' who are offering borrowed money, by the attractions of new securities which are coming into the market. In fact, new securities will be forthcoming in large amounts. For the rising prices of all securities make it easier for entrepreneurs to market new shares and stocks in order to finance their capital developments. Indeed, the issuing of new stocks and shares may well have become for the moment the easiest way of raising capital for any purpose. If bullishness is the prevailing sentiment the prices of old securities *must* rise high enough to attract into the market sufficient new securities to absorb the bulk of the borrowed money being poured into the market by the 'bulls'.[2] The attraction of these securities implies inducement to entrepreneurs to extend their capital developments (though to a very limited extent they may use the proceeds simply to pay off bank loans). The proceeds of the new issues therefore become cash deposits to be disposed by entrepreneurs on the purchase of raw materials, labour, &c., to be employed in capital construction. The money 'withdrawn' from use by industry and trade for stock market speculation is poured back by the stock market into the 'productive' channels. Except to the trifling extent that the financial markets do need larger balances to cope with their increased turnover, the absorption of money by the stock market is illusory.[1]

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[1] I would here repeat my warning that a final analysis of the American experience has yet to be made. The general impression of economists is portrayed in the above sentences; but the analysis which follows is in no way dependent on the validity of any particular interpretation of the American boom.

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[1] Readers will notice that I am paying scant attention to Mr. Keynes's analysis of the Wall Street boom. I believe subsequent events to have cast serious doubts on the validity of his interpretation and, moreover, I believe that the development of an extreme 'bull-bear' position is scarcely conceivable. But readers interested in this problem should pursue the subject in the *Treatise on Money* (esp. vol. i, pp. 248–57, and vol. ii, pp. 195–8). On the Wall Street boom see also Hawtrey, *Art of Central Banking*, chap. ii.

[2] I believe this statement to be of universal validity. It is so worded

This conclusion is, of course, subject to the various conditions with which the preceding paragraphs are hedged about. But I believe that the reservations are no serious qualification to the conclusion when the situation under review is one of those extreme speculative booms which alone evoke serious protests that money is being drained from the channels of industry and trade.

III. *The Danger of Misuse of Real Resources*

We now turn to the more serious problem raised by the encouragement which a speculative Stock Exchange boom gives to the misuse of real resources. We have seen how developing optimism, by increasing the public's willingness to bear uncertainty, puts a premium on the rasher ventures and the ventures of shadier firms. Following the analysis of the previous section we can assume that the money which passes into the stock market, passes out into the new issue market, and we can now proceed on the assumption that as the boom develops a greater and greater share of that stream gets into the hands of rasher and

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to avoid reference to the 'bull-bear' situation which Mr. Keynes envisaged and to which the statement could certainly not be applied.

[1] When speculation in securities is indulged in, even by those who deal mainly in cash, it is true that some part of the total supply of money must be wholly employed in these transactions. How much we do not know.

shadier company promoters. These business men secure control of real resources. The disadvantages to society are two. In so far as resources go to unduly *rash* ventures there is bound to be a great waste of real resources in capital developments which prove to be useless. Society's savings are wasted. Secondly, in so far as resources go to fraudulent company promoters, society's savings are likely to be squandered on riotous living by the company promoters. In both these cases there is a direct economic loss quite apart from the social evils of the individual investor's losses and the prosperity of sinners.

Use of real resources in these ways necessarily involves some abstraction of resources from the 'sounder' ventures of 'legitimate trade and industry'. The mechanism of diversion of resources appears in the stock markets in this way: as the public preferences shift in favour of the riskier ventures the prices of securities issued by the more conservative companies do not rise so fast. If they want to borrow they have to pay higher rates to compete with these other outlets for money. The difficulty is, directly, only aggravated by the banking system forcing dearer and dearer money on the market. For, while higher interest rates may act as a serious deterrent to the more cautious entrepreneurs, the wilder companies, once the public appetite for their securities is sharp, may well be undisturbed by a rise of one or two per cent in the effective interest rate. When the banking system follows such a policy, or even if it is purely passive in allowing increasing activity to draw interest rates upward, there are bound to appear justifiable complaints that unhealthy speculative developments are preventing sound concerns from obtaining the financial (and so ultimately the real) resources they need. Once the boom is well under way it is difficult to see how the banking system can, by its ordinary weapons of credit contraction and dear money, make any tolerable efforts to stop the waste of resources.

What the banks can sometimes do, and what has

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occasionally been attempted, is to supplement the orthodox banking weapons by the weapon of discriminating *credit rationing*.[1] By refusing absolutely to lend to people who are engaged in highly speculative ventures, and by refusing to lend, or rationing loans to stock market speculators, something can be done. This weapon has its limits—especially in the possibility of money nominally lent for one purpose being diverted by borrowers to the other purposes upon which the banks are frowning. One might even, if a policy of credit rationing were continued for long, find a 'black market' in loans developing. But for a short period a policy of discriminating credit rationing by the banks may be effective. And a short period of it may be sufficient to check the unhealthy speculation.

It may be asked, what interest have the banks as commercial institutions in doing this for the sake of the economic health of the country? The answer is that an unhealthy speculative boom is bound to lead sooner or later to a crash, and a crash to a more or less prolonged slump, in which even the soundest borrowers from the banks will be affected. Banks have an interest in brisk trade at the moment but they also have an interest in avoiding a future situation in which bad debts become the rule. We must rely on the far-sightedness of commercial banks to do what little they can to check the wilder developments of a boom. Even so, the problem remains one of the most serious difficulties confronting a capitalist system.

There is, of course, an analogous situation when universal pessimism, in a slump, causes the investing and speculating public to be inordinately wary. Then the rasher ventures are definitely at a discount. This has some disadvantage in that certain more enterprising new developments will not get so fair a chance, and the rate of economic progress suffers accordingly. But there is in this case no question of *diversion* of resources—for resources are under-

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[1] There is considerable evidence to support the view that the English banks were employing such a policy in the spring of 1920.

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employed all round. The waste of unemployed resources in a slump can be largely avoided by appropriate governmental spending.[1] That, of course, is going to exaggerate the normal depression tendency for the less enterprising business to attract most support. The rate of economic progress is bound to be slowed down by a slump. The banks can do nothing to help in this small point. But in any case the slump problem is not, from this aspect, anything like so serious as the problem which a speculative boom sets to the monetary authorities. Though Trade Cycle policy generally involves at least as many difficulties in slump as in boom, the particular problems posed by stock market behaviour are, in practice, confined to the boom.

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[1] This view is held by the majority of economists, but business men often experience difficulty in accepting it.

CHAPTER XII

GOVERNMENT FINANCIAL POLICY AND THE BANKING SYSTEM

WHAT we have to say in this chapter is an application of the analysis which has already been developed; but it is a very important application. For the Government is in a modern community much the biggest spender in the market. The proportion of the country's final income which is enjoyed in the form of government services is, in Britain to-day, perhaps one-fifth. In other advanced countries the fraction is not very different. Or to take another aspect, the Government is often much the biggest borrower in both long- and short-term markets. Finally government operations may be of enormous economic importance because the Government may subordinate the banking system to the satisfaction of its own pressing needs. For these among other reasons the financial operations of the Government can affect banking operations in the country in two ways—directly, by the banking system being used as a weapon of government finance, and indirectly, by government operations affecting economic activity generally and so affecting the more passive operations of the banking system. The following paragraphs discuss these two classes of effect. Here as elsewhere we shall be thinking primarily in terms of British government finance and British institutions; but the general principles are equally applicable to the conditions of other highly developed communities.

I. *Government Inflation through the Banking System*[1]

If the Government of this country finds itself unable to meet all its current expenditure by taxation and by the issue of government bonds to the investing public or Treasury Bills to the discount market there is open to it inflation through the banking system, which makes the direct issue of government paper money unnecessary. This channel is opened by Ways and Means Advances by the Bank of England to the Treasury. Ways and Means Advances on a purely temporary basis are frequently used to overcome temporary discrepancies between government receipts and disbursements; but they can also be used systematically as a substitute for other government receipts. The situation is most likely to arise in time of war, and the central bank traditionally admits its obligation to make unlimited Ways and Means Advances in time of war. It is possible that even now the management of the Bank would decline to make such systematic Advances in time of peace;[1] but, as we saw in Chapter IV, the Government always has the whip hand and if the Government could find the proper constitutional support for its demands no central bank could resist for long.

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[1] On this subject the reader may find further enlightenment in Hartley

In the Bank Return Ways and Means Advances are included in government securities in the Banking Department. When Ways and Means Advances are increased the amount thereof is automatically added to the item Public Deposits on the other side of the account. As the Government uses the Advances to pay the accounts of government contractors, the wages of its employees, &c., the Public Deposits go down and the Bankers Deposits go up, as shown in Chapter V. As the recipients of the Government's payments pay their cheques into their own banks not only do Bankers Deposits rise (as the banks

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Withers, *War and Lombard Street*. For German government inflation see Bresciani-Turroni, *The Economics of Inflation*; and for French see Dulles, *The French Franc 1914–28*.

[1] The Bank's letter of 22 September 1919 certainly propounded the view that large and prolonged use of Ways and Means Advances should be regarded exclusively as a wartime expedient. It is by no means certain that such a letter would be written—or were it written, tolerated—nowadays.

present the cheques through the Clearing House) but also the deposit liabilities of the commercial banks rise. The first step in the inflation of the supply of money is thus accomplished. If, as is sooner or later almost certain, the Government's spending more than it is taking from the pockets of the public has the effect of raising prices and the volume of trade, the public will want to have some of the increase in the supply of money in the form of cash. To the extent that they withdraw cash, commercial bank deposits and cash in hand, and at the Bank of England, Bankers Deposits and Notes are all reduced by the same amount, and no further inflation automatically follows. But to the extent that the new money remains in the form of bank deposits a secondary 'multiple' inflation follows the initial inflation. This is because the original inflation increases the cash reserves of the commercial banks as much as it increases their deposits—their cash ratio therefore rising. Unnecessarily high cash ratios stimulate the commercial banks to acquire new earning assets. It is in the interests of the Government that those earning assets should be provided as far as possible by itself. Assuming that the commercial banks do not want to disturb their original distribution of assets, they will sooner or later seek more bills, more outlet for money at short notice and for ordinary advances and more investments, in the predetermined ratios. By issuing Treasury Bills to the market and to the banks the Government can secure the disposal of the new bank deposits which are created by the banks taking up more bills and lending more to the market to enable it to hold more bills. By issuing more of the longer-term government bonds which the banks are willing to take up the Government can, without disturbing interest rates, secure the new deposits which arise from the banks expanding their investments. The utilization of ordinary bank advances is more difficult. In the last war the Government managed to tap this source also indirectly, by persuading the banks to persuade customers to buy more government bonds on the understanding that the banks would by advances help those customers to meet the contingencies for which they would otherwise have held balances.

If the Government can arrange affairs in this way it is able to secure the disposal not only of the money which comes into existence as the direct initial result of the Ways and Means Advances but also of the money which comes into existence as the initial increase of the cash basis leads to a multiple expansion in the supply of money. As the Government spends the money the deposits, of course, come into the hands of members of the public, who then have the whole of the increase in the supply of money at their disposal. If they can be induced to use some of it (e.g. after saving part of their salaries as government servants) to buy government bonds so much the better for the Treasury. Or some of the deposits may be dragged back into the Treasury by the taxation machine.

Nor does the demand for more cash for circulation check the Government's receipts as much as appears at first sight. The Government can itself create the cash. Under our present system an inflation initiated by a great rise in Ways and Means Advances would soon lead to exhaustion of the unused Notes held in the Banking Department. These could be replenished (without any change in the Bank's gold) in either or both of two ways. The Government could issue notes of its own, declaring them legal tender. These notes need not be issued directly to the public but through the banks, the Government supplying them to the Bank as required. The Bank would, of course, credit the amount sent by the Government to Public Deposits—the Government thus securing the disposal of bank deposits to the amount of the notes it printed. That increase in Public Deposits, as it is used, is transferred to Bankers Deposits and the banks thus obtain the extra cash to meet circulation needs. This was the method used in the last war. Alternatively the Government may authorize an

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increase in the Fiduciary Issue. The Bank of England then itself produces the required new notes; but the process involves the Issue Department in taking up fresh government securities to the amount of the new notes. The Treasury is thus able to secure a corresponding addition to Public Deposits (by selling, say, Treasury Bills to the Bank) with the same results as in the other case. Which of these two methods of providing increased cash is used is of no fundamental importance. The choice is likely to be decided by expectations of the public's psychological reaction to either course, or (as in 1914) by pure accident.

We have suggested above ways in which the Government, by astute arrangement of its finances, can secure the maximum receipts directly and indirectly from an initial increase in Ways and Means Advances. The more it can tap the multiple increase in money supplies which follows the increase in the cash basis, the more productive is the complete operation of the Treasury. It is conceivable, in English conditions, that an initial Ways and Means Advance of £10 millions will ultimately enable the Government to borrow well over a hundred millions without putting any strain on interest rates. But in practice it is impossible for even the most astute Treasury to divert to itself the entire increase in the supply of money. For the enormous increase in Government spending will have evoked the true inflationary phenomena of rising prices and expanding activity. This will have the usual effect of causing increased offers to the banks of attractive assets—the outlets for bank advances in particular will be expanding. Indeed, pressure on the banks for more advances may appear at a very early stage, in that government contractors, whose business the banks dare not hinder, may be wanting more working capital before the Government inflation itself appears (for it appears only as the contractors are paid).[1] As the demand of industry for cash deposits increases, the proportion of the total increase in deposits which the Treasury can attract to itself declines. It is true that the greater the inflationary developments the easier it may be for the Treasury eventually to exact heavy taxes on profits, &c., but that materializes at a much later stage.

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[1] As this demand is met the demand for notes for circulation of course rises, with repercussions which will be apparent to any one who has read the earlier chapters.

The whole business works in either a virtuous circle or a vicious circle for the Treasury. The more prices are rising the more it needs, but the less completely can it secure the disposal of the increase in the supply of money. To meet its needs it must obtain more and more Ways and Means Advances and originate more and more bank inflation. But if the typical inflationary phenomena of rising prices and booming trade do not appear Treasury needs do not expand so rapidly, while the Treasury meets with less competition in its attempts to attract to itself the supply of new bank money. From the point of view of the arranging to meet its own financial needs it is in the interest of the Treasury to restrict inflationary developments. Yet it is responsible for the initial inflation, and the more inflationary the situation becomes the more it will have to inflate!

II. *Government Inflation and the Employment of Resources*

At the conclusion of the previous section we noticed how the financial problems faced by a government in wartime —or at any other time when its needs are outrunning its more orthodox resources—are solved more easily the less the government inflation has inflationary effects. But these financial problems are only financial manifestations of the problem of meeting the *real cost* of running a war. The Government wants the money in order to secure real resources. The less other people seek control of real resources the more easily can the Government secure the amount of real resources it wants. Under the stress of war it *must* have the real resources, and must resort to inflationary finance in a degree sufficient to attract the resources it can attract in no other way. If it can resort to other measures to prevent other buyers competing for resources then its financial problems are eased: less inflation will be necessary.

This was recognized in Britain in the last war and found its expression in a number of measures, of which two in particular are worthy of note here. First, the Treasury restricted private long-term capital issues in London. This could be viewed as a direct method of facilitating the issue of government bonds without forcing up interest rates as much as would otherwise have been necessary. The same step viewed from a different angle may be described as a measure to prevent people securing the means of competing with the Government for the present supply of real resources. Second, in order to leave the banks with no incentive to encourage the borrowing of funds for less urgent purposes, it was arranged that the commercial banks could at any time deposit surplus cash reserves at the Bank of England, receiving substantial interest payments (varying, I believe, round about 4½ per cent. per annum) on those balances. This measure can be described, as were similar measures in pre-war days, as a measure to keep Bank Rate effective in the face of the rapid growth of Ways and Means Advances. The Government tried to appropriate all it could of the increase in the supply of money which occurred, but it was determined that its failure to appropriate all should not enable competitors for real resources to obtain bank advances at unduly favourable rates. The offer of 4½ per cent. or so on surplus balances at the Bank of England did nothing to discourage the banks from lending to non-government borrowers at 6 or 7 per cent.; but it did discourage lending at lower rates. Numerous other non-banking measures were taken with the same object of checking competition for real resources; but a study of them would take us far afield into the political economy of war. The point that is relevant for us here is the fact that by its financial and especially by its other measures tending to restrict competition for resources the Government did prevent expansion of the cash base from having all the inflationary effects it might have had. What was really important in causing the inflationary situation of rising prices, &c., was not in the first instance the expansion of the cash basis but the expansion of government spending.[1] Increasing demands from traders for more bank credit had their origin not in any cheapening of credit following excess bank reserves but in the economic activity stimulated by the great increase in government expenditure. The fact that the government activities were financed partly by the creation of cash of course allowed the inflationary movement to go far without any scarcity of money appearing; but the initial impetus clearly came from government spending and *not* from expansion in the supply of money.

This conclusion has important implications for Trade Cycle policy. We may usefully notice the contrast between the rapidity of recovery, the pace at which prices rose after August 1914 on the one hand and on the other hand the painful slowness of the recovery in this country in 1931–5 —a recovery the main official stimulus to which was a cheap money policy. Certainly government spending seems a far more efficient weapon than cheap money in producing recovery. Why this should be so has already been indicated in Chapter VI. The moral is sometimes formulated in a most discomforting way: it has been said recently that we seem to enjoy the experience of booming trade only when we are waging war or preparing for war. The fact is that, given nineteenth-century notions of 'sound government finance', war and enormously expensive armaments races are the only conditions in which governments can be induced to depart far from the traditional policy of balanced budgets. Following that traditional policy the Government's response to the decline of revenue in a

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[1] And a real shortage of supply. The price of sugar was doubled before war began—because two-thirds of the supply had been coming from Central Europe.

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slump has always been to cut expenditure ruthlessly—so aggravating the situation. As prosperity increases expenditure, both on current account and on capital account, is allowed to rise—so exaggerating the inflationary situation. As the biggest buyer in the market for real resources the Government has always aggravated the cyclical movements of trade.

But if the Government chooses to increase its expenditure at the moment when private expenditure on capital development is beginning to decline the slump may be moderated, even if not prevented. Increased government demand for real resources at the moment when other demands are declining will keep the volume of employment more even. Similarly decreased government spending in the boom would mean a lessening of competition for resources at a time when the latter were already fully employed—and so the rise in prices would be moderated. Experience of wartime inflation used sometimes to be quoted as an example of what manipulation of the cash basis could do to moderate the Trade Cycle; but the true lesson of wartime experience was rather to show what could be done by manipulating the government's expenditure.

Or rather government expenditure relatively to the economies it is inducing members of the public to make. Government expenditure does nothing to add to the demand for real resources if it is associated with such taxation or other measures as will induce individuals to reduce in like degree their own demands for real resources. We have already seen how this was recognized in the war, when the Government restricted the money it needed for buying a given amount of real resources by restraining individual demands for real resources. And we should recognize it also in discussing the inflationary effects of the present rearmament programme. The more rapidly saving increases as economic activity increases the more can the Government (or any other body for that matter) increase its capital expenditure without stimulating the rise in prices and strain on the banking system. As things are, we have in Britain a heavy tax on the employment of labour. The yield of the tax has been increasing rapidly in the last few years. The tax is used to provide payments for the sick and unemployed. The latter decrease in number as trade revives. Altogether the unemployment and other insurance funds accumulate great surpluses in time of trade activity—they are compulsory saving on the part of working classes. And if the Post Office provides attractive facilities, Savings Bank Deposits of the working classes can also provide large sums for the Government in a boom. The more the compulsory and voluntary savings increase, the more capital development—whether battleships or bridges—we can have without the boom involving strain on the monetary system. The accumulation of these savings eases the Treasury's position by providing a source of funds, for rearmament finance,[1] quite independent of the open market. That is merely a reflection in the technical financial situation of the fundamental fact that the more our institutions promote saving in a boom the more real capital development we can have before the strain of the banking system begins to check the boom.[2] While the Treasury can tap the funds of 'public departments' the Bank of England is able to postpone the day of deciding whether it shall greatly expand the cash base or let interest rates rise sharply. And this is a serious advantage now that Treasury influence over the Bank is likely to force continued cheap money in the interests of government debt-operations.

It may be that as a result of having these institutions stimulating saving in a boom we are stumbling into something very like the policy suggested not long ago by Mr. Durbin—a policy of maintaining the boom by increasing governmental saving.[1] And before long it will be worth remembering that the corresponding anti-slump policy is government dis-saving—i.e. deliberate budget deficiteering. Such a policy has no dire effects on the banking system. Rather it would save the latter from those disturbances which the Trade Cycle forces upon it. The banking system provides, as we have seen in the earlier part of this chapter, a very easy method for the Government to finance itself without having recourse to unpleasant taxation. We might infer from this ease of governmental inflation that it is a temptation to which governments often fall. In fact, only wars and rumours of wars are sufficiently powerful stimuli to government use of inflationary finance. At all other times—and at some most unsuitable times—governments turn their faces sternly away from such an easy course.

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[1] The 'loan' share of the rearmament burden is at present being largely borne by these special public funds (see Hall, 'Some Technical Aspects of the Finance of Rearmament', in *Economica*, 1937, p. 137).

[2] Capital goods satiation may operate more quickly to check the boom; but this is unlikely if the capital goods are warships and bombers.

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[1] See his *Problem of Credit Policy*, esp. pp. 230–2.

CHAPTER XIII

BANKING IN THE NEW COUNTRIES

I. *The Significant Peculiarities of Newer Banking Systems*

THROUGH most of this book the problems and their solutions have been generally stated in terms which apply directly to the highly developed banking systems either of the English type or of the American type. I would emphasize once more that this pre-occupation with English and American conditions reflects no notion that those conditions are the ideals from which those of other countries show unfortunate aberrations. Rather our special concern with English and American banking is based first, on the fact that those conditions are likely to be of most direct interest to the majority of readers of a book written in English, and second, on the fact that the systems of other countries do appear to be developing along similar lines—indeed they are frequently being forced to develop along similar lines. Nevertheless, there are problems peculiar to other systems which are important to those countries and are also worth studying for the sake of the light they throw on the general principles of banking. The countries to which we shall refer in examples will generally be India, Canada, Australia, and South Africa; but the varying conditions in those countries have their counterparts in the South American republics, in Japan, and in many of the minor countries of Europe.

The important peculiarities which distinguish these banking systems from the more highly developed systems are three in number: (1) the banking habit may be little developed and banking offices be few and far between; (2) there may be no short money-market, or no satisfactory short money market; and (3) central banking may not yet be effectively established. It should not be thought that *all* these three conditions are to be found in each one of the countries we are considering. I believe all of them lack a really good short money market. But in some—notably Canada and to a less extent Australia—the banking habit is very highly developed and banking offices are 'plentiful as tabby cats'. The third condition—the existence of effective central banking—is becoming more common, but is still not so common as is the mere existence of a central bank.[1]

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Where there is little banking of any kind, as in China, India, and in many parts of South America, the bulk of transactions are necessarily settled in cash. Cash forms the greater part of the supply of money. Then the most important source of changes in the supply of money is in the variations in the supply of cash. That cash may be metal or government notes—or more frequently both together. The changes in supply then occur as a result of mining of the precious metals, or foreign trade in them, or changes in the government issue of notes. It is not impossible, under such circumstances, for changes in the banking system to cause disturbances in the price situation; but changes so initiated cannot be violent or prolonged unless they are supported by parallel changes in the supply of cash. An increase in lending by banks to cultivators, for example, would produce inflationary effects of the usual kind; but the inflation would very soon be checked if there were not forthcoming a great increase in cash to support the increased value of transactions. Since what banks there are will generally be found concentrated in a few great trading centres (Bombay, Canton, or Shanghai for example), contact with the banks is generally confined to the traders in those centres. A bank inflation is therefore liable to mean development of speculation and investment in those centres (as in Bombay in the 1860's, to take an old but extremely clear example). The presence of trading contacts but absence of banking contacts between the inflationary centre and the hinterland quickly leads to a drain of cash from the centre to the hinterland.[1] This drain of cash quickly checks the expansionist policies of the banks. (The same tendency appears, of course, in a country with a highly developed banking system, especially if there is not branch banking; but the drain of cash into circulation will not be nearly as marked.) Unless banks are very cautious, bank failures occasioned by inability to produce cash on demand are likely to be numerous. In such a country more than elsewhere, therefore, the authorities are likely to be concerned about maintaining the liquidity of the banks and general regulation of their assets. Indeed, it is because historically such conditions were common that government regulation of commercial banking has traditionally been directed to the maintenance of liquidity rather than to subjection of the commercial banks to a central bank.

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[1] On the banking systems of these countries good books are scarce. The League of Nations Memoranda on *Commercial Banks* are useful for all banks. On Indian banking there are two useful books by L. C. Jain (*Indigenous Banking* and *Monetary Problems of India*), many books published in India, and the voluminous papers of the *Indian Central Banking Inquiry*. For Canada see *Report of the Royal Commission on Banking and Currency in Canada*. A similar report has recently been issued in Australia. For South Africa also official reports are available. Beckhart and Willis, *Foreign Banking Systems*, is also useful.

The second feature which distinguishes these countries from the most advanced banking countries is the absence of a good short money market. The Canadian banks have an outlet for short-term funds in the local stock markets; but these are limited and of virtually no use to a central banking system. In Australia conditions are little different. In both countries attempts are now being made to develop a market in Treasury Bills; but there has been little time for these attempts to have borne fruit. In South Africa and in South America there are virtually no markets in short-term funds. In India there are markets, but the divisions between them—between the indigenous and the European markets for example—are so difficult to overcome that it is impossible to speak of *a* market of the kind needed for contact between a central bank and the commercial banks. Indeed the mutual independence of the various money markets implies absence of that integration of banking affairs which generally makes it reasonable to talk of a banking *system*. The great European financial centres have short money markets which are more or less well developed; elsewhere, even in Europe, it is impossible to base central bank technique on the assumption that the London institutional structure is the standard pattern. We have already referred, in Chapter III, to the possibility of these countries developing short money markets for the purpose of facilitating central banking operations. We shall return in a later section of this chapter to the alternative possibility of the new central banks employing an entirely different technique.

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[1] This works very much on the lines explained by Senior in his *Transmission of the Precious Metals*, *Value of Money*, and *Cost of Obtaining Money*.

The third peculiar condition which used to be common in these countries is the absence of an effective central bank. There is now no country of any account which has no central bank; but in many of the smaller countries the newly established central bank has not yet found its feet. Its most important operations are often confined to the foreign exchange market. This, of course, is a useful function—especially in a period like the nineteen-thirties—but it is quite a different business from controlling the commercial banks. When, as was almost universally the case not many years ago, these countries had no central banks, the commercial banks were apt to regulate their operations in accordance with the gold movements and movements in their foreign balances. In the absence of a lender of last resort, however, some of the larger and more conservative banks would, in their own long-run interest, be inclined to vary the cash ratio sometimes. An obviously temporary addition to foreign balances would not, for instance, automatically lead to a multiple increase in deposits

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at home. In this way some of the better developed and stronger systems did enjoy some of the advantages of that abstraction from the profit-motive which distinguishes central banking. Far-sighted commercial banking does, in fact, provide some alternative to central banking; but it should be realized that only if a bank, or a group of unanimous banks, controls a substantial proportion of the total banking funds in the country can it afford to go far in neglecting immediate profits.[1] The sharper the competition the less can a single bank do, without losing all its business, to force a rise in the cash ratio. Or, to put the same point in another way, the sharper the competition it faces the less is a single bank's chance of protecting itself against the rashness of its competitors. This is one of the strongest arguments for the establishment of a central bank in every country. But how, in the absence of the institutional framework of London, a central bank can exercise effective control is a question we have yet to face.

II. *Central Banking in the absence of a Short Money Market*

Let us first consider the problem of central banking technique in a country which is covered by a network of modern commercial banks, the banking habit being assumed widespread. Of such a country Canada is perhaps the leading example; but in Australia and in South Africa conditions are scarcely different. It is easy enough to subject the commercial banks to the behaviour of the central bank's assets. To effect this three steps are usually taken: (1) the note-issuing powers of the commercial banks are either abolished or severely restricted; (2) the commercial banks are required to maintain at the central bank balances bearing a certain relation to their deposit liabilities to the public; and (3) the central bank is constituted lender of last resort. Of these three steps the third and the less radical form of the first are absolutely necessary. The second and the more stringent form of the first are advantageous in that they help to provide the central bank with an income: for purposes of control they are mere embroideries. The constitution of the bank as lender of last resort is fundamental in that it removes from the commercial banks all responsibility for providing reserves against an abnormal loss of cash. The commercial banks can then be relied upon to minimize consistently their cash reserves in order to maximize their profits.[1] The plan of obliging them to hold certain minimum-ratio balances at the central bank, apart from the advantage noted above, merely serves to give point to this expectation that their reserves will bear a constant ratio to their deposit liabilities. Restriction of their note-issuing rights prevents them from adding to their cash by printing more notes. [We assume that there is no right of free coinage in the country: if there is, a stable foreign exchange policy is implicit. The embarrassments of the central bank which follow from the right of free coinage are identical with those which, we shall find below, are implicit in any predetermined foreign exchange policy being followed.]

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[1] The chance is at the best remote, for the time to raise the cash ratio is generally the time when, thanks to a favourable economic situation, the demand for bank loans is unusually brisk.

In advanced financial centres we are apt to assume that that is the end of the matter. For if the volume of bank deposits is subject to the central bank's assets the central bank can make the supply of bank deposits (and so short-term interest rates) what it likes, simply by manipulating its assets. But in these other countries the manipulation of a central bank's assets is by no means such a simple matter. Given the absence of a good bill market (the presence of which is what makes control so easy in London) the central bank's assets will ordinarily be government securities, foreign exchange, gold, and perhaps loans to the commercial banks. If the last item does regularly show substantial indebtedness of the commercial banks all is

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[1] Subject to the reservations explained in earlier chapters.

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well, for the central bank can impose whatever interest rate it chooses for those loans, and so influence the willingness of the commercial banks to lend to the public. It controls, that is to say, the basic short-term interest rates—which is all the Bank of England does. But in fact when a central bank is superimposed on an established banking system it is not easy at an early date to lead the commercial banks into indebtedness to the central bank, and such indebtedness appears to be rare in fact. Apart from that immediate consideration there are bound to be periods—and often those periods when the central bank is most anxious to exercise control—when the foreign exchange situation leads to the commercial banks' indebtedness to the central bank disappearing.

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In its holding of government securities, however, the central bank is not passive—its holding depends on the amount it has chosen to acquire. There is some possibility that the new central banks of the world will be able to control the cash basis partly by manipulating their holdings of government securities. But there is a substantial difficulty which severely limits the utility of the weapon. The stock markets of these countries, though modelled on the great exchanges of London and New York, are of course vastly more limited in their capacity for completing big deals. It is easy enough to suggest that the Commonwealth Bank of Australia, for example, could reduce the cash basis by selling government bonds in Melbourne; but given the size of the Melbourne market any very big sales would lead to the closure of the Stock Exchange—because buyers would not ordinarily be forthcoming to take up huge amounts at short notice. The same applies to the opposite process of big purchases—or attempts at purchase—by the central bank. And even when the transactions could be completed it would only be at the cost of enormous variations in prices of the securities. These security price variations might be counted an advantage in that the central bank would be exercising direct influence on the long-term rate of interest. But the government might fear the reactions of public opinion, the stimulus to speculation, and the possibility of the investment outlet for government bonds being permanently narrowed by the spectacle of enormous price variations. And the central bank would have to run risks of substantial losses resulting from price variations of assets it may wish to sell at any time. The more the central bank tries to avoid creating big price variations by varying the securities it deals in (perhaps even spreading its net to catch industrial debentures!) the farther it is running into risks of loss. A central bank might conceivably be encouraged to do this, the Government bearing all losses; but it is most unlikely. So I am afraid we must regard all operations in securities as an extremely limited weapon with which the central bank can influence the cash basis.[1]

We are reduced, then, in the absence of short money markets, to the possibility of the central bank regulating the cash basis by its operations in gold and foreign exchange. A central bank always deals in either gold or foreign exchange because the holding of a reserve of gold and/or foreign exchange is generally (and rightly) held to be a duty of the central bank. In considering the effects of these operations we will, for the sake of brevity, talk only of gold. Whether the central bank does or does not choose to turn the foreign balances it acquires into gold does not affect the internal situation.[2] Now there are two extreme possibilities. Either the central bank will consider the price of gold (foreign exchange rate) fixed and will buy and sell gold at that fixed rate—that is the gold standard condition: or it may fix the amount of home currency it is willing to supply and allow the gold price (foreign exchange rate) to be adjusted to clear the market. In the former case the amount of home cash it creates by purchase of gold (or the amount it destroys by the sale of gold) is absolutely dependent on the international balance of payments—the central bank has no *control* at all. In this case it is a matter of indifference whether the central bank alone can monetize gold or there is right of free coinage—in either event the supply of cash is fixed independently of the central bank's wishes. We may say that it is desirable that the central bank should in fat years accumulate a gold reserve against the drain which is sure to come in lean years, when the balance of trade is unfavourable. But if the central bank is automatically to create cash as it receives the gold, the gold might just as well have gone to the commercial banks. The existence of a central bank does nothing to help.[1]

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[1] It is worth noting that the Bank of Canada appears to have been able to vary considerably its holding of government securities without causing great disturbance—but the experience is limited at present.

[2] Most of the minor central banks nowadays hold both gold and foreign exchange. Gold has the advantage that its value in terms of *other* foreign currencies is not subject to the behaviour of one particular foreign currency. On the other hand, if a country's obligations are largely in terms of a particular currency (e.g. sterling or dollars) it is advantageous to hold some of that currency rather than gold whose value in that currency may vary. Canada, for example, properly holds some sterling and U.S. dollars as well as gold, while Australia and India look mainly to sterling reserves.

Of these two extremes the latter is not one which could be tolerated as a regular system. It is unthinkable that a country having such an appropriate institution as the central bank should allow the foreign exchange rates to move up and down with complete freedom from intervention. However strongly opposition to the gold standard is argued the case for some intervention to steady foreign exchange movements is unshaken. Yet once the central bank is prepared to intervene, it forswears some of its active control of the cash basis. For it can only intervene (abstracting from the possibility of exchange restrictions) by offering home currency in return for foreign currency, or by offering foreign currency for home currency. Once it does so intervene the cash basis of the banking system becomes subject to the excess of supply of over demand for

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[1] Indeed it may make things worse: for, as suggested above, in the absence of a lender of a last resort some of the stronger banks may take a long view and add to their ratio of gold to deposits in favourable years.

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(or vice versa) home currency in exchange for foreign currency at the rate at which the central bank decides to hold the market. The gold standard case (which after all is quite a common case) is simply the extreme case in which the central bank holds the foreign exchange rate (gold price) fixed by absorbing all excess supply of foreign exchange or of home currency at that rate. But whether that extreme position is adopted or not, it is inconceivable that a central bank should do otherwise than allow the volume of cash created by absorption of gold or foreign exchange to be determined by its foreign exchange policy.

Were variations in the balances of payments of these countries generally small this argument would not be of much account. But the opposite is in fact almost universally true. The countries we are considering are in general producers for export of a *few* primary commodities—either minerals or agricultural products or both. The total value of the exports of any one of these countries is therefore subject to extreme variations, thanks to crop variations depending on weather conditions, the exceptionally great price ranges which apply to nearly all primary commodities, and to the lack of diversity in their exports making a collapse in a single market a cause of great disturbance in the total balance of trade. This variability of exports is supplemented in its effect on the balance of payments by the tendency for long-term capital movements to be more or less parallel (perhaps with some time-lag) to the movements of exports. Prosperity of a country makes that country more attractive to investors and the inflow of long-term capital therefore has a natural tendency to be concentrated in years of favourable balances of trade.[1]

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[1] There is some evidence that some of the countries are becoming conscious of the disadvantages of borrowing abroad up to the hilt in good times. The Australian Federal Loan Council, for example, appears to be anxious to prevent borrowing abroad from exaggerating the fluctuations in the balance of trade in the traditional manner. There is obviously scope here for some such special institution which will work in close co-operation with the central bank.

Given this extreme variability of the balance of international payments and a desire to steady (even if not to stabilize) the foreign exchange rates, a central bank must be prepared to absorb large amounts of gold (or foreign exchange) in the fat years and part with them in the lean years. One of the advantages of having a central bank in such countries has sometimes been stated as the desirability of having some institution whose duty it is to accumulate such a reserve against lean years—'a drought reserve' as it has been appropriately called in Australian discussions. But given, say, a gold standard law there is no advantage in having a central bank to do it, *unless the central bank can 'sterilize' the gold by reducing its other assets as gold flows in*, and vice versa. We are forced to the conclusion that, far from thinking of the central bank as being able to manipulate the cash basis by regulating its dealings in gold and foreign exchange, pursuit of its foreign exchange policy necessitates manipulation of its *other* assets.

Unfortunately we have already examined those other assets and found that the power of the central bank to vary them is likely in practice to be extremely restricted. We may now see how in time of prosperity it cannot be expected that the commercial banks will naturally be in debt to the central bank: for the favourable balance of payments will have led to the central bank absorbing gold, and the currency created in exchange will be used by the commercial banks to pay off their indebtedness to the central bank. Control of the situation by the central bank appears to be dependent on its power to *offset* gold movements, and the possibility of doing so by open market operations in the least analogous to the Anglo-American operations appears to be very slight.

What, then, is the use of a central bank? I believe that two important possibilities remain open even when a gold standard is being maintained; and when a gold standard is not maintained there is a further argument in support of the utility of a central bank. We have so far concerned ourselves purely with the possibility (but difficulty) of the central bank controlling the cash basis by open market operations of one kind and another. There remains open the possibility of securing a change in the composition of its liabilities. I am suggesting in fact that the central bank should be allowed to take advantage of its position as banker to the Government. If it cannot reduce its non-gold assets when gold is flowing in (or when for any reason it wants to contract the cash basis) it can restrict (or reduce) the cash basis by raising Public Deposits—the Government's balance. Government disbursements must fall short of government receipts. This cannot, of course, be done by the central bank on its own initiative—a serious limitation of its power. But it can be done with the co-operation of the Government—hence another argument for very close co-operation of the central bank and the Treasury.

It must be emphasized that these variations in Public Deposits must, if they are to be of any use, be produced by revenue surpluses and deficits and not in government debt operations. For if the Government can raise the level of Public Deposits by issuing securities to the public there is no reason why the central bank should not itself sell part of its holding of government securities to the public—the absorptive capacity of the securities market is the same either way. And contrariwise for a reduction of Public Deposits by redeeming securities. If the public's holding of securities is subject to variability it is better that the central bank should take direct advantage without dependence on the goodwill of the Treasury. We have already suggested that ordinarily the variability of public security holdings is not great. The possibility I am suggesting entails not government debt manipulations but deficiteering and its opposite. And this is worth noticing for another reason: it has been suggested in earlier chapters that a government deficit makes for inflationary conditions, and a surplus for deflationary conditions directly. A time when the central bank is striving to check inflation (and therefore when an increase in Public Deposits is most useful to it) is just the time when a government surplus is most helpful to it. And similarly when the central bank wants to check deflation a fall in Public Deposits and the appearance of a government deficit are both useful. But this connexion between budget policy and central bank operations also emphasizes the desirability of very close co-operation of central bank and Treasury. And since budget policy cannot by any stretch of imagination be removed from direct political control, constitutional questions are likely to prove a serious obstacle to any immediate development of this rather idealistic central bank technique.

Yet in spite of all these difficulties in the way of manipulating total assets or the composition of liabilities, there remains one way in which the central bank can exercise authority. It can be given power, as has happened in New Zealand and is proposed in Australia, to vary the ratios of the commercial banks' compulsory cash reserves to their deposit liabilities. The aggregate supply of money can be insulated from a rise in the cash basis by an appropriate rise in the legal ratios; and from a fall in the cash basis by an appropriate reduction of the legal ratios. Save for its effect on the profitability of commercial banking (and its influence should generally tend to stabilize profits and so be acceptable) there is no possible objection to the central bank taking this course. It is accordingly a weapon which should always be placed in the hands of a central bank whose technique is circumscribed by the conditions we are assuming in this section. Given such power the central bank can perform useful functions which commercial banks cannot be expected to perform.

All that is equally applicable to a gold standard and a non-gold standard country. But if the country without a central bank is not on a gold standard the establishment of some special institution which would have some functions appropriate to a central bank is likely to come sooner or later. For in the absence of any such institution the commercial banks will normally, for the conduct of their own business, hold reserves of gold and/or foreign exchange and they will generally be the main dealers in the foreign exchange market. But sooner or later the Government, acting supposedly in the interests of business activity, is bound to take an interest in the foreign exchange situation and to seek eventually to regulate the foreign exchange rates. This cannot be done properly without the co-operation of the commercial banks, and the latter may reasonably object to altering the foreign exchange rate at which they will deal in such a way as to impose great losses on themselves. The Government, or a newly adapted institution, must then be prepared to step in and take over all foreign exchange reserves and take the entire responsibility for fixing the rate. This is what happened in New Zealand, for example, in the early nineteen-thirties, and events in Australia were much the same. Once this is realized the case for putting this rather specialized function of regulating the foreign exchanges into the hands of a central bank becomes much clearer. When the country is not on the gold standard the case for establishing a central bank may be based partly on this desirability of having some institution to regulate the foreign exchange value of the currency—always assuming that the authorities are unwilling to leave the foreign exchange market completely exposed to every wind that blows.

I myself am inclined to stress the value of what may perhaps be called the ancillary functions of the central bank—acting as the tool of foreign exchange policy and adviser on that policy, advising the Government on the economic effects of its financial policy, and co-operating in the regulation of the import and export of long-term capital. Although it is essential that the central bank should have power (even if it is only a cash-ratio variation power) to control the supply of money, too much must not be expected from that function alone. For, as has been emphasized in this book, control of the supply of money only gives control of the economic situation in so far as the latter is subject to the influence of the rate of interest. And that influence works slowly and often but feebly. In the countries to which we are referring in this chapter a succession of good export seasons leads, in the absence of checking action by the central bank, to an expansion in the supply of money. But the really powerful influences promoting inflationary developments are the rises in incomes of export producers—and all too frequently the burst of government expenditure which is the natural outcome of a feeling of increased prosperity and confidence. The expansion in the supply of money is influential simply in allowing these forces to proceed unhindered by any slight drag which may be exerted by rising interest rates. If the central bank prevents the expansion in the supply of money the drag of rising interest rates is more quickly applied. Far more effective probably would be action in raising the foreign exchange value of the currency, moderating the rise in incomes (in terms of home currency) of export producers. Manipulation of government taxation and expenditure can also exert much influence. Lastly the inflationary progress can be moderated by checking the inflow of capital. To forward these ends should be an important object of the central bank: and similarly it should strive for contrary developments as extremely important supplements to the expansive policy it may wish to follow at other times.

For these reasons I think it important that these new countries should not be satisfied with the mere establishment of central banks on the (somewhat inappropriate) English or American pattern. They should endow their central banks with appropriate powers (especially the power to vary cash ratios) to control the supply of money. But they should go on to establish a network of machinery for monetary control—a network which will include the central bank as regulator of the supply of credit and of the foreign exchanges, a body for the regulation of overseas borrowing, and a Treasury which pays regard to the general

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economic effects of budget policy. Australia has gone farthest along this road: Canada and South Africa have still far to go. The connexion of budget policy directly with the whole field of government activities, and the connexion of the other functions mentioned above with the general welfare of the people, make it impossible to foresee successful establishment of such monetary control without there arising all sorts of constitutional questions about their mutual relations and their subjection to popular control. The solution of these constitutional questions must be contributed by the coming political generation if the theories of the economists are to be exploited to the full in these countries.

III. *Central Banking in a Primitive Banking System*

In the previous section we were concerned with the peculiar problems facing central banks where there is a good system of commercial banking but no good short money-market. We now proceed to the central banking problems peculiar to those countries which have no well-developed network of commercial banks. Much of what was said in the previous section, and especially the last part, is applicable also to these more primitive countries. Indeed, much of the last part is applicable to all countries. But for the more primitive countries—India, China, and most parts of South America for example—there are certain further considerations to which we now turn.

The essential peculiarity which distinguishes these countries from those we have already discussed is that they approach the extreme case of a central bank which has no banking system to control. The supply of money is composed mainly of cash—metallic currency, say. The influence of the central bank in the foreign exchange market then becomes perhaps its most important function, for there alone will it be able to influence the supply of money. But there are, I believe, important ways in which the central bank can meet the peculiar conditions. It can *provide or supplement* the ordinary banking facilities of the country. Or it can merely encourage the development of an integrated commercial banking system. In exceptionally favourable conditions it may manage both to supplement existing commercial banking and to encourage its independent development. Provision of ordinary banking facilities and encouragement of the growth of an integrated commercial banking system should, however, generally be regarded as alternative policies. For while the first has as its end a system in which the central bank has *direct* control over the supply of bank money (since all, or a substantial part of all, bank deposits are its own liabilities), the aim of the second alternative is the development of a system in which the central bank has only the indirect control which control of the cash basis gives.

Against a central bank policy of providing ordinary banking facilities is all the force of the opinion that the central bank should leave ordinary commercial banking business to separate institutions. But this notion is always supported by arguments which assume that there are already in existence commercial banks covering at least a large part of the field. There is, for instance, the argument that, as the commercial banks are obliged to keep balances at the central bank without earning interest on those balances, the central bank should not compete as a lender of funds with ordinary banks which have to go to some expense to obtain deposits. Such competition, if it is even suspected, is at once dubbed 'unfair competition'. There is also the argument that, when the central bank acts as an ordinary banker to the public, transfers of money from a commercial bank's customer to a central bank's customer (or vice versa) disturb the supply of money. These arguments collapse entirely if there is no commercial bank in existence, and lose most of their force if the commercial banks cover only an insignificant part of the total field. But the former of these two arguments does imply a further proposition: that the development of independent

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commercial banking may be discouraged by central bank invasion of the field. If, therefore, we have any reason for preferring ordinary commercial banks, the central bank should encourage their growth rather than invade the field itself. The issue turns in fact on the question of the integration of banking systems.

In favour of complete integration of the banking system there is the very powerful argument that in an integrated system control over all banking operations is direct and not indirect. The force of the argument depends on the inefficiency of indirect as compared with direct control. If we could assume that the commercial banks would always react automatically in precisely the right way to any central bank action, indirect control would be as good as direct control. But as has been seen at several points early in this book, no amount of regulation of commercial banking can guarantee invariably correct reaction. Even if they cannot lower the cash ratio below a legal minimum, the commercial banks can always raise it above that minimum and thereafter reduce it to that minimum. Central banking policy may sometimes require the commercial banks to expand (or contract) earning assets of one kind rather than another; but the system of indirect control does nothing to provide for such situations. London appears, since 1890 at any rate, to have learned that some of these deficiencies of indirect control can be overcome by informal co-operation between the various members of the system. Much has still to be done along this line: especially where, as in London, the central bank is so secretive. But obviously the further co-operation is developed the nearer does the system approach a formally integrated system. The great disadvantage of an integrated system is that the one bank, being conscious of its sole ultimate responsibility, may be too cautious to provide all the bank loan facilities which would be provided by specialist commercial banks. This disadvantage is the more serious the more important the outlet for commercial bank loans is in a country: the

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downward trend in the demand for commercial loans means that the disadvantage of integration of the banking system is becoming less. On the other hand, there is good ground for supposing that it is just in those countries—India for example—of which we are thinking particularly that the outlet for commercial loans is greatest. Accordingly I think that the case against the central bank providing ordinary banking facilities there, while not so overwhelming as is frequently assumed, is stronger from one point of view than the case against integration of the banking system in a country like our own. Although they do not want wild-cat banks, India and China do want banks which will be prepared to support the activities of the people who have obvious ability but no good collateral security to offer.

The case for the central bank developing ordinary banking business on its own account may be strongest in quite a different type of system. South Africa provides the extreme example of a country where practically all the banking business is in the hands of only two great branch banks. Neither of these banks confine their operations to South Africa, and neither is controlled absolutely by officers in the country. The limitation of competition arouses suspicion of monopolistic fleecing—and that by 'foreign banks'. Such is the strength of each of these two banks, and such is their temptation to act in concert, that they could frequently (if they chose) make the central bank's policy quite ineffective. Should that possibility be realized in practice there would be a very strong case for the central bank setting up numerous branches throughout the country in an attempt at once to break the 'monopoly' of these two banks and to secure some direct control over the banking operations of the country. The situation would be uncomfortable; but not impossible. Wise co-operation of the two commercial banks with the central bank would, of course, make any such development absolutely unnecessary.

There remains the question of what a central bank can

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do to encourage the development of a system of commercial banks. Here the possibilities are two. The first and much the more attractive course is provision and encouragement of the use of rediscounting facilities. The second and more remote possibility is the administration by the central bank of a subsidy for newly established commercial banks.

The development of rediscounting is important in a new banking system in that it enables banks to economize their till-money without increasing the risk of being broken by a 'run' for cash. Since cash is a non-earning asset, economizing cash reserves implies increasing earning power. Growth of rediscounting facilities therefore acts in the same way as a subsidy; but it has the additional advantage of developing contacts between the various parts of the banking system and making it easier for the central bank to enforce its policy. The central bank can do much in this way by selecting (and possibly securing the adaptation of) any suitable credit instruments already in use in the country (the *hundi* in India is an example), and offering favourable rates for cash obtainable on deposit of these instruments with itself. Sometimes there is room for reduction of stamp duties on such instruments, and then the central bank should do its best to persuade the government to sacrifice revenue for the sake of promoting the development of the banking system. In countries like India and China, too, the central bank must be prepared to open numerous branches (or attractive agencies[1]) in order to provide assistance quickly and easily to new local banks. Unfortunately there is almost universal prejudice against rediscounting, it being generally regarded as a sign of weakness. The central bank should make it its business to persuade bankers that rediscounting is not necessarily an evil practice.

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[1] I insert the adjective 'attractive' to exclude the use of agents to whom new banks are unlikely to go in search of aid. Branches of the Imperial Bank of India (a predominantly European institution) do not seem ideal agencies for the Reserve Bank of India, if the latter wishes to encourage the growth of indigenous banking.

If the Government is willing to bear the expense the outright subsidy method may be employed. If so, the central bank is the obvious agent for administration of the subsidy: for compulsory inspection powers would be a decided advantage in developing its contacts with newly established banks. It might be difficult to discriminate between new banks and those already well established without encouraging the growth of a unit-banking system rather than a branch-banking system; but I believe this difficulty could be overcome. However, detailed discussion of this possibility seems rather waste of time when we remember that in the countries of which we are thinking there are generally many more pressing needs to be met out of the scant government funds. All that the government can reasonably be expected to do is to reduce stamp duties on particular credit instruments, at the suggestion of the central bank.

But I believe that much can be done without great expense if the central bank makes up its mind to encourage the growth of commercial banking. And once an adequate system of commercial banking has developed the problems of control faced by the central banks become those which we have already discussed in the previous section.

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CHAPTER XIV

THE NATIONALIZATION OF BANKING

THIS book has been mainly concerned with explaining the mechanism of the banking system and not with political issues. But a book with the title 'Modern Banking' must be considered incomplete without some reference to one political issue—the proposal that the banks should be 'nationalized' or 'socialized'. At the same time I feel that the general character of the book may be held to excuse brevity on the subject, the reader being left to seek detailed arguments, if he wishes, in the writings and speeches of protagonists and antagonists of the nationalization of banking. I shall confine myself to little more than a statement of the main issues as they appear to an economist. English institutions will be in my mind most of the time.

Proposals to nationalize the central bank need not detain us long, for the main issue has become obsolete. It is almost universally recognized that a matter of such import to public welfare must be subject to control by the State. The State must have the last word in monetary policy. The question which cannot be regarded as settled is, just how far shall control by the State be carried? The problem is one of detailed constitutional arrangements: the principle is settled. Whether the central bank should be formally 'nationalized' or not is merely a matter of the community's choice of names. It does not settle the detailed problems. But those detailed constitutional issues have already been discussed, in Chapter IV, and we need not stay to repeat them here.

Let us consider then the project of nationalizing the commercial banks. Five serious issues appear to me to have been raised. I shall introduce those five issues by stating five propositions, some or all of which would be accepted by a supporter of nationalization. The mere formulating of the discussion in this way must not be

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interpreted as necessarily implying my willingness to support the propositions.

The propositions are:

(1) The commercial banks we have to-day do their present work *less efficiently* than nationalized banks would do it. (This will be referred to as the *Efficiency Issue*.)

(2) Independent commercial banks cannot be adequately controlled by the central bank. (This will be referred to as the *Integration Issue*.)

(3) The creation of money is a prerogative of the State and the commercial banks, being creators of money, should therefore be removed from private control. (This will be referred to as the *Monetization Issue*.)

(4) Independent banks would be in a position to hinder nationalized industries in a state which was in transition from a capitalist to a socialist form of economic organization. (This will be referred to as the *General Socialization Issue*.)

(5) On counts (1) to (4) the net advantage in favour of nationalization is substantial enough to make it worth while enduring the pains of any financial crisis which the *process* of nationalization might precipitate. (This will be referred to as the *Transition Issue*.)

If, as I believe, this exhausts the serious arguments, a supporter would have to accept one or more of propositions (1) to (4) and would also have to support proposition (5). A person might be an antagonist because, while supporting any or all of propositions (1) to (4) he could not support proposition (5). An antagonist must formally deny proposition (5); but if he denied any or all of propositions (1) to (4) his denial of proposition (5) could be consistent with his disbelief in a crisis being the concomitant of the process of nationalization.

The Efficiency Issue is not one which can be decided by *a priori* argument. The essential point of the first proposition is that under private control the banks do not do their

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work of distributing loanable funds and transferring deposits as efficiently as a public institution would do it. Supporters of this proposition must point to some obvious *waste* in the present system which would be avoided were the banks nationalized. This can be done either by showing that their profits are unnecessarily high, or by showing that their expenses are unnecessarily high—or both. On the question of the level of profits, it is not enough to show that the fewness of the banks makes concerted pricing and therefore monopoly profiteering possible. Imperfection in the market does not imply the inevitability of abnormally high profits (witness the position of the British railways). It merely makes unnecessarily high profits conceivable. The real question here is, are the banks earning, or are they likely to earn, unduly high profits? Of the present level of profits it is impossible to speak with certainty, as published profit-and-loss accounts tell very little of the story. The declared profits certainly do not give unduly high dividends to present shareholders; and it may be argued that the differential which distinguishes bank share yields from gilt-edged yields is no more than is sufficient to compensate them for the risk implicit in the apparent secular downward trend in the demand for commercial loans. It is difficult to come to any definite conclusion one way or the other so long as we are ignorant of some of the most relevant facts.

As to the possibility of reducing expenses, it should be realized that, so far as the commercial banks are interested in maximizing profits, they have an incentive to minimize expenses. This disposes of some of the ingenuous arguments alleging the inefficiency of our banks. It is true that mistakes may be made—in recruitment of staff, for example—but a government department is also liable to make mistakes. The question is, in which system are mistakes likely to be the less frequent? This question is one of the general questions of public *v.* private control in all economic activities, and not being peculiar to the

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banking field will not be discussed here. But there are two particular aspects of the expenses question which do call for mention. First, is the existence of four or five small bank offices (one of each of the great banks) necessary at almost every spot where there is any bank office at all? And second, are bank offices (and the 'free' services which they provide) wanted at so many geographical points? On the former question, it is possible to argue that appreciable economies of large-scale operation would be realized if the great banks were amalgamated. What economies are conceivable is a technical question to which bank managers should be able to give a fairly definite answer. At present[1] public policy does not allow the fusion of the great banks: were they allowed to combine more economical operation might be possible without nationalization. The issue is not simply the present system *versus* a nationalized system, but the present system *or* a system in which there is freedom to amalgamate *versus* a nationalized system. The other question relates to the amount of service which the public really wants. In the imperfect competition that exists, charges are standardized. Competition between the banks is confined to the quality and quantity of service. The customer, knowing that charges are practically the same anywhere, naturally takes the best service he can get —he goes to the most convenient branch and the bank whose officers are the most helpful. The 'free' services accordingly tend to multiply and so do bank branches. Each bank, to maintain its position, must keep pace with the other banks in the quality and quantity of service it provides. The customer is faced by the choice between various offices, all offering comparable services and charging the same rates. He does not have the choice between much service with high charges and small service with low charges. He may conceivably prefer the former to the latter or vice versa. We do not know as there is at present no choice. Mere nationalization would not settle the choice;

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[1] Since the Committee on Bank Amalgamation reported in 1918.

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but people would then have channels through which to express a preference for a less expensive system if that does happen to be their choice. This argument, of course, provides one illustration of the general inapplicability to a system of imperfect competition of the assumption (reasonable when competition is perfect) that a system of private enterprise will provide precisely what the public wants.

The Integration Issue turns on the adequacy of the weapons which the central bank already has or can be given consistently with the maintenance of the private status of commercial banking. The relevant arguments have already been given in earlier chapters. Since the central bank must be, in fact, a public institution, integration (to ensure perfect control) necessarily implies nationalization of the commercial banks.

The third proposition is based on the firmly established tradition that the creation of money is the prerogative of the State. No private body should be allowed to secure profits from the creation of money. That is a proposition which was universally accepted in the nineteenth century.[1] We can disagree with it if we choose. Some antagonists of nationalization accept it but deny the implication that the commercial banks should be nationalized either by denying that banks can create deposits or by denying that bank deposits are money. In earlier chapters we have shown how (if the word 'create' is used in its normal sense) the banks can unquestionably create deposits: that is a proposition denied, so far as I know, by no professional economist. The second question which arises is, are bank deposits to be regarded as money? I have suggested earlier in the book that it really does not matter whether we call bank deposits money or not. For analytical purposes the question may be dismissed as a mere matter of words. But if we are to make a nationalization issue turn on the definition of money, we should examine whether it is really only a matter of words. Now it may be argued that there is really no dividing line between a bank and, say, an investment trust. Both lend resources, which they 'owe' to their depositors or shareholders, to borrowers of various kinds. Bank depositors may in a sense be compared to holders of investment trust debentures. If the bank's profits should be confiscated by the State, why not the investment trust's? Such arguments ignore the fundamental peculiarity which distinguishes banking from other businesses, and which in my view justifies the application of the word 'money' to bank deposits. The bank, unlike other businesses, is able to make profits because it need not match its assets to its liabilities.[1] It need not match its assets to its liabilities *because its liabilities are widely accepted in settlement of other people's debts*—i.e. they are 'money' in the ordinary sense of that word. But other opinions may be held. Anyway, these are, I believe, the subsidiary questions on which the validity of the third proposition depends.

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[1] It was notably supported by Sir Robert Peel, the English statesman who devoted most attention to these matters.

The General Socialization Issue becomes serious only if one favours a general policy of socialization. A person may support nationalization on the basis of any of propositions (1), (2), or (3) without necessarily being a socialist; but dependence on proposition (4) depends on one's general political position. Supposing we want to socialize one after another all the main fields of economic activity, should the banks be nationalized early or late in the process? The issue is thus one of the *timing* of bank nationalization rather than nationalized *versus* private banks. It is argued by the supporters of early nationalization that banks remaining under private control in the transition period could sabotage socialization by refusing to lend or at least discriminating against industries already socialized. Why the banks should do so is not easy to understand. The security offered by the would-be borrowers would be in fact State security—the bankers would be willing enough to accept that. It is true that they might stand out for unduly high rates of interest; but if they were so stupid as to quarrel with a government which had a popular mandate for socialization the Government could threaten them with immediate nationalization. No doubt the bankers would realize that the Government had the whip hand, and do business gracefully. We can all agree that there is no place for private banking in a general system of state socialism. But the necessity for nationalization of banking at an early stage in the process of socialization is not so obvious.

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[1] I owe this point to Mr. Barrett Whale, but he cannot be held responsible for its use in this connexion.

The Crisis Issue depends on public reaction. Would there, in fact, be a crisis if the nationalization of banking appeared imminent? That would depend on how far the owners of bank deposits favoured nationalization. If the owners of bank deposits support the nationalization policy no difficulty arises. The nationalizers are assured of no disadvantage if they can secure universal support. But if (as is possible, but not certain) the nationalizers derive their power mainly from non-depositors or very small depositors, a clash is possible. The depositors may be frightened because they do not understand the operations or because they want to sabotage the scheme. But what can they do? They can demand Bank of England notes in exchange for their bank deposits. Were the position correctly understood, it is scarcely conceivable that the liabilities of the central bank should be preferred to those of the commercial banks when the latter were about to become state institutions. If the public *did* demand banknotes a great extension of the rediscounting facilities provided by the Bank of England and an increase in the Fiduciary Issue would, as in 1914, be sufficient to enable the banks to cope with the situation.

More seriously, the public might sell their bank deposits in the foreign exchange markets, preferring to hold foreign currency (or gold). The consequent tendency of the pound sterling to fall in the foreign exchange markets might be reinforced by foreign bearing of sterling stimulated by the

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spectacle of an increase in the Fiduciary Issue. This tendency of the foreign exchanges to move against London —perhaps to an extreme degree—would probably be the most serious effect of nationalization policy carried in the face of opposition from the wealthy classes. A temporary system of foreign exchange restrictions might be an effective method of stopping the flight from sterling; but the position would be far more secure if the foreign exchange rate could be supported by official sales of gold and foreign exchange. The alternative of foreign exchange restrictions would have serious effects outside England, as London is the centre of a large sterling bloc and as such holds the reserves of many other monetary systems. A nationalization policy would therefore be safer when London holds a thousand million pounds' worth of gold than when it holds only a hundred million pounds' worth. The crisis would be less severe if the wealthy classes supported the policy. Nationalization by a Conservative government would be an easier process than nationalization by a Labour government—just as Conservative governments in the last ten years have been able to initiate smoothly various other socialistic schemes. Enough has now been said to show that the validity of the argument that nationalization would provoke a disastrous financial crisis depends upon the circumstances of the time to such a degree that it is impossible to say, in the abstract, whether such a crisis would or would not be a serious disadvantage of nationalization.

Enough has also been said, I hope, to show that the five main issues set forth at the beginning of this chapter depend upon a number of subsidiary issues, all of which should be faced by any one who wishes to make up his mind on the nationalization question. The final decision is for the politician, not for the economist. But understanding of the mechanism of the banking system should help people to understand the issues at stake, and if that understanding has been helped by this book the latter will have served its purpose.

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